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Animal and
Plant Health
Inspection
Service

Biological Assessment

Medfly Cooperative Eradication
Program—August 1993

United States
Department of
Agriculture



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Table of Contents

| | |
|--|-----|
| I. Introduction | 1 |
| II. Proposed Medfly Cooperative Eradication Program..... | 3 |
| A. Purpose and Need | 3 |
| B. Program Alternatives and Control Methods..... | 4 |
| C. Site-specific Eradication Procedures | 6 |
| III. Methodology | 9 |
| IV. Results..... | 11 |
| Appendix | |
| A. Background Information | A-1 |

Table of Contents

| | |
|------|--------------------------------------|
| i | Introduction |
| ii | 1. General Introduction to the Study |
| iii | 2. Theoretical Framework |
| iv | 3. Research Methodology |
| v | 4. Data Collection and Analysis |
| vi | 5. Results and Discussion |
| vii | 6. Conclusion |
| viii | References |
| ix | Appendix |
| x | Index |



I. Introduction

This biological assessment (BA) has been prepared as part of the Animal and Plant Health Inspection Service's (APHIS) continuing responsibility under the Endangered Species Act of 1973 (ESA). Under this act, APHIS is required to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of a federally listed endangered and threatened (E&T) species or adversely modify or destroy their critical habitats. Regulations implementing this responsibility are located in 50 CFR Part 402. These regulations provide a mechanism for Federal agencies to work with the U.S. Department of the Interior's Fish and Wildlife Service (FWS) and assist agencies in carrying out their obligations under the ESA.

In accordance with the intent of the ESA and its implementing regulations, APHIS and FWS (Washington, DC, office) have been cooperating regarding E&T species protection in potential Medfly program areas almost since the need for an environmental impact statement became apparent. In August 1992, FWS assigned their Albuquerque, New Mexico, regional office as the lead region to coordinate FWS responses to APHIS for ESA compliance on the Medfly program (see appendix A-1). Upon designation of a lead region, APHIS requested an E&T species list for the purpose of preparing a BA (see appendix A-2). After further discussions and an early November 1992 meeting between FWS and APHIS, FWS provided the E&T species list (see appendix A-3) on November 16, 1992. Numerous discussions and meetings ensued during the development of the BA and attest to the good working relationship that has formed between APHIS and FWS. APHIS appreciates the cooperative spirit with which FWS has approached this project.

II. Proposed Medfly Cooperative Eradication Program

A. Purpose and Need

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS), in cooperation with other Federal and state organizations, is proposing a program to eradicate the Mediterranean fruit fly (or Medfly), *Ceratitis capitata* (Wiedemann), an exotic agricultural pest. The Medfly currently is not established in the conterminous United States. This proposed program is designed to eradicate any infestations that may be introduced and to prevent the Medfly from becoming established in the conterminous United States. The Medfly Cooperative Eradication Program is necessary because of the Medfly's destructive potential and the serious threat it represents to U.S. agriculture. Table 1 provides a list of states, counties, and parishes that are potential program areas.

Table 1. Counties and Parishes of the Conterminous United States Identified as Potential Medfly Cooperative Eradication Program Areas¹

| State | County or Parish |
|----------------|---|
| Alabama | Baldwin, Mobile |
| Arizona | Cochise, Maricopa, Pima, Pinal, Santa Cruz, Yuma |
| California | Alameda, Contra Costa, Fresno, Imperial, Kern, Kings, Los Angeles, Orange, Riverside, Sacramento, San Bernardino, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Tulare, Ventura |
| Florida | Brevard, Broward, Dade, Hillsborough, Indian River, Lee, Monroe, Orange, Palm Beach, Pinellas, St. Lucie, Seminole |
| Georgia | Chatham |
| Louisiana | Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, St. Charles |
| Mississippi | Harrison |
| South Carolina | Beaufort, Charleston |
| Texas | Cameron, Harris, Hidalgo, Starr, Willacy |

¹Mutually agreed upon by program cooperators based on factors relating to climate, host availability, potential avenues of introduction, and past introductions.

APHIS has prepared a draft programmatic environmental impact statement (EIS) that evaluates alternatives for the control of the Medfly. The EIS analyzes, in the broad sense, the potential environmental consequences of those alternatives and their component control methods.

B. Program Alternatives and Control Methods

Alternatives considered in the EIS for the Medfly Cooperative Eradication Program include: (1) no action, (2) Medfly suppression (including chemicals), (3) Medfly suppression (no chemicals), (4) Medfly eradication (including chemicals), and (5) Medfly eradication (no chemicals). Each alternative (including no action) has the potential to affect biological resources, including endangered and threatened (E&T) species. In the case of the no action alternative, the potential effects are related to the uncoordinated use of pesticides by commercial growers and the public.

The action alternatives' potential effects on E&T species depend on their component control methods, and are related to the intrinsic hazards of the control methods used and the exposure of E&T species to those methods. Control methods are summarized in table 2 and are described briefly in this section. Refer to the draft EIS for greater detail about the program's control methods.

Table 2. Alternatives and Their Component Control Methods

| | Alternatives | | | | |
|---|--------------|---|--------------------------------------|---|--------------------------------------|
| | No Action | Medfly Suppression (Including Chemicals) | Medfly Suppression (No Chemicals) | Medfly Eradication (Including Chemicals) | Medfly Eradication (No Chemicals) |
| Chemical Control Methods | | | | | |
| Malathion Bait Spray Aerial Application and Mist Blower Application | | X | | X | |
| Malathion Bait Spray Ground Application (Exclusive of Mist Blowers) | | X | | X | |
| Diazinon Soil Drench | | X | | X | |
| Methyl Bromide | | X | | X | |
| Nonchemical Control Methods | | | | | |
| Sterile Insect Technique | | X | X | X | X |
| Physical and Cultural Control (Host Denial) | | X | X | X | X |
| Male Annihilation (Mass Trapping) | | X | X | X | X |
| Biological Control ¹ | | | | | |
| Biotechnological Control ¹ | | | | | |
| Combined Control Methods | | | | | |
| Regulatory Control ² | | X | X | X | X |
| Integrated Pest Management ² | | X | X | X | X |

¹ Future potential, but not proven efficacious or technologically feasible now.

² May be structured to include chemical methods, nonchemical methods, or a combination of both.

1. Chemical Control Methods

Chemical control methods include aerial and mist blower malathion bait application, ground malathion bait application (exclusive of mist blowers), diazinon soil drench, and methyl bromide fumigation. In general, chemical control methods may have potential to affect E&T species directly through toxic action, or indirectly through their influence on ecological relationships such as food chains. The E&T species may also be affected indirectly by noises

from the chemical application vehicles and associated personnel and by compaction of their soil habitats (or even the E&T species themselves) from chemical application vehicles.

Aerial and mist blower malathion bait applications involve the use of malathion mixed with a protein hydrolysate bait to attract adult Medflies. The malathion bait applications are often used to reduce Medfly populations to levels where releases of sterile insects will be effective. Typically, two to four aerial applications of bait spray are used in a 9 square mile area around each Medfly find. The rate of application is 0.175 pounds (lb) of active ingredient per acre (a.i./acre). Mist blower application is unlikely to be used by APHIS. If, however, it is used, it generally involves misting individual trees or groups of trees. For the purpose of this biological assessment (BA), it is grouped with aerial applications rather than ground applications because misting has a higher potential for drift than other ground applications.

Ground malathion bait applications use the same material as the aerial applications, except that backpack sprayers or truck-mounted hydraulic sprayers are used by personnel to deliver the material. The method of delivery allows for specific targeting of Medfly host material only, thereby reducing risk overall. Ground applications of foliar bait can be applied as full foliar coverage sprays, but are routinely applied as bait spot treatments which substantially reduce the amount of material used.

Soil drench with a liquid formulation of diazinon may be used to kill Medfly larvae entering the soil and new Medfly adults emerging from the soil. It is used as a complementary control method along with fruit stripping and other control methods. Typically, one treatment (but up to three may be made) is applied to the soil within the drip line of host plants in the immediate vicinity of a Medfly larval detection where it is watered into the soil. The application rate is 5 lb a.i./acre (0.00012 lb a.i. per square foot). The U.S. Environmental Protection Agency (EPA) permits no more than 10 gallons (40 lb a.i.) of diazinon use per state per year. No Medfly eradication program to date has used the entire 10 gallons permitted by EPA. The draft EIS also analyzes the use of chlorpyrifos and fenthion as soil drenches. Neither of these chemicals is likely to be used at any time in the foreseeable future. Therefore, their use is not considered as part of the program for purposes of this BA. If, in the future, there is a need to use chlorpyrifos or fenthion, APHIS will prepare a separate BA and will work with the U.S. Department of the Interior's Fish and Wildlife Service (FWS) to ensure that E&T species are not affected.

Methyl bromide fumigation is used as a regulatory control method to kill Medflies in regulated articles (fruits and vegetables) and thereby allow the movement of those regulated articles from within the quarantine area to locations outside of quarantine boundaries. Because of their contained and limited natures (chamber or tarpaulin fumigation), methyl bromide fumigations have no potential to affect E&T species.

2. Nonchemical Control Methods

Nonchemical control methods that have been used in previous programs include sterile insect technique, physical and cultural control (host denial), and male annihilation (or mass trapping). Biological control and biotechnological are nonchemical control methods that are still in development and are not considered technologically feasible at this time. Therefore, they are not included within the realm of this BA. If, in the future, their use becomes feasible and APHIS has a need to use them, APHIS will work with FWS to ensure that E&T species are not negatively affected.

The sterile insect technique involves flooding an area with sterile adult male Medflies. The idea is to overwhelm adult females with sterile potential mates, thus reducing the likelihood of successful reproduction. Use of this technique often follows one or more applications of bait spray.

Physical and cultural control methods involve activities such as fruit stripping, removal of host plants, and modification of agricultural practices. For purposes of this BA, they have been combined under the title of "host denial."

Male annihilation uses panels that contain a sticky substance and chemical Medfly lure, both of which pose a negligible toxicological risk to nontarget species.

Generally, the nonchemical control methods have little potential to affect E&T species because of their noninvasive characteristics or because they are used on backyard plantings in metropolitan areas where E&T species are not normally found.

3. Combined Control Methods

Combined control methods include regulatory control and integrated pest management (IPM) and may include any of the component controls (both chemical and nonchemical) that are discussed above. For example, one or more applications of malathion bait spray may be made to reduce Medfly population levels along with diazinon soil drenches to remove larvae from soils beneath infested trees, followed by sterile insect releases, in order to cover the various Medfly life cycle stages to achieve eradication of wild Medflies. IPM allows selection of alternative control methods based upon the site-specific requirements of proposed control operations. IPM is a strategy that integrates and varies its use of component controls on the basis of predicted economic, ecological, and sociological consequences.

C. Site-specific Eradication Procedures

If, in the future, APHIS identifies the need to conduct a Medfly eradication program, the program modifications identified within this BA will serve as the basis upon which APHIS will ensure that E&T species will not be affected. To further ensure that E&T species will not be affected, APHIS (Biotechnology, Biologics, and Environmental Protection with the concurrence of Plant Protection and Quarantine) will contact FWS to provide details of control options and locations and to confirm that the BA remains accurate relative to the program. This site-specific review will allow the FWS to provide APHIS with an E&T

species update, listing those species that have been added or are proposed to be added to the official listing of federally protected species. In conjunction with FWS, APHIS will develop protective measures to avoid affecting the newly listed E&T species and refine the protective measures stated in this BA to ensure that the program is designed so that listed species are not affected.

APHIS will not commence activities without appropriate consultation with FWS in any case where an E&T species may be affected by a Medfly eradication program.

III. Methodology

The biological assessment analyzes the potential for listed species to be affected by each eradication technique: aerial and mist blower application of malathion bait spray, ground-based malathion bait spray (exclusive of mist blower application), diazinon soil drench, sterile insect technique, host denial, and male annihilation. The analysis used a two-step process. The first step involved placing each species into one of five categories depending upon the potential for impact. The five categories are as follows:

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.
2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or Fish and Wildlife Service-approved (FWS-approved) protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Species were placed into one of the categories after comparing the known biology and ecology of the species with the potential pathways of exposure. Considered in determining the potential exposure pathways were (1) the Federal Insecticide, Fungicide, and Rodenticide Act label restrictions and use directions for each pesticide and (2) programmatic restrictions, such as areas where pesticide applications are prohibited (such as wildlife refuges and parks). Also considered were (1) chemical properties, (2) formulations, and (3) methods of application.

Where no exposure pathway is determined, the species was placed in a "no effect" category (1, 2, or 4, on previous page). In cases where exposure is possible, the species was placed in one of the two "may affect" categories (3 or 5, on previous page). After each species was individually evaluated as described above, species within each category were grouped further according to their likely potential response to pesticides and the similarity of the pathways through which they could be affected. For example, five species of shrimp in California were grouped together.

The second step in the analysis involved only those species that fell into the "may affect" categories (3 and 5). These species and the exposure pathways affecting them were carefully studied to determine which techniques resulted in "may affect" situations and why the "may affect" resulted. The eradication program planned for an area that could affect these listed species was then modified so as to result in a "no effect" situation (category 1, 2, or 4) for the species or group of species in question. In other words, a site-specific eradication program in an area that could affect a listed species would authorize only those eradication techniques that have been determined through this biological assessment to have no effect on listed species. This would require the use of techniques that would not affect the species in question or require certain restrictions being placed on the use of a technique so as to eliminate the "may affect" situation. For example, temporal (time of day or season in which a technique is used) or spacial (such as buffer zones) restrictions could eliminate any concern for affecting a species.

If, for any reason, the techniques and restrictions identified through this biological assessment are determined to be insufficient to accomplish the programmatic goal of Medfly eradication and/or the Animal and Plant Health Inspection Service (APHIS) desires to employ different methods (other than those approved in this assessment), then APHIS will initiate section 7 consultation with FWS. In this way, both FWS and APHIS can be assured that obligations under the Endangered Species Act are met and that listed species will not be affected.

IV. Results

The following pages indicate the category that each species has been assigned to after following the methodology outlined in chapter III and the reason for the assignment. The results are organized by control method within each state. All species have fallen into one of the "no effect" categories. Where this result is dependent upon certain Fish and Wildlife Service-approved conditions, these conditions have been identified and accepted as a requirement of any potential Medfly eradication program that may occur in proximity to the listed species in question. As stated previously, if for any reason the techniques and restrictions identified in this biological assessment are determined to be insufficient to accomplish the programmatic goals of Medfly eradication and/or the Animal and Plant Health Inspection Service (APHIS) desires to employ different methods, then APHIS will initiate section 7 consultation with the Fish and Wildlife Service.

Alabama
Host Denial
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Alabama red-bellied turtle

Perdido Key beach mouse

Sea turtles (4)

Alabama beach mouse

Piping plover

Wood stork

Gulf sturgeon

Red-cockaded woodpecker

These vertebrates are found within the counties where Medfly treatments may occur, but host denial activities will not take place in their habitats nor affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Gopher tortoise

Off-road vehicles associated with host denial activities may collapse tortoise burrows, harming any tortoises or snakes therein; also, off-road vehicles may run over tortoises or snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Alabama

Ground-based Malathion Bait Spray (Exclusive of Mist Blowers)

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Alabama beach mouse

Perdido Key beach mouse

Sea turtles (4)

Alabama red-bellied turtle

Piping plover

Wood stork

Gulf sturgeon

Red-cockaded woodpecker

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of ground-applied malathion bait spray will not reach their habitats nor affect any component of them. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by ground applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Gopher tortoise

Off-road vehicles associated with ground-based spraying may collapse tortoise burrows, harming any tortoises or snakes therein; also, off-road vehicles may run over tortoises or snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Alabama

Male Annihilation Technique

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|-----------------------------------|--------------------------------|------------------------|
| Alabama red-bellied turtle | Perdido Key beach mouse | Sea turtles (4) |
| Alabama beach mouse | Piping plover | Wood stork |
| Gulf sturgeon | Red-cockaded woodpecker | |

These vertebrates are found within the counties where Medfly treatments may occur, but annihilation of male Medflies will not take place in their habitats nor affect any component of them; therefore, they will not be affected by the program.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | |
|-----------------------------|------------------------|
| Eastern indigo snake | Gopher tortoise |
|-----------------------------|------------------------|

Off-road vehicles associated with male annihilation techniques may collapse tortoise burrows, harming any tortoises or snakes therein; also, off-road vehicles may run over tortoises or snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Alabama

Aerial and Mist Blower Use of Malathion Bait Spray

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|----------------------------|-------------------------|-----------------|
| Alabama beach mouse | Gulf sturgeon | Sea turtles (4) |
| Alabama red-bellied turtle | Perdido Key beach mouse | Wood stork |
| Eastern indigo snake | Piping plover | |
| Gopher tortoise | Red-cockaded woodpecker | |

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target drift of malathion bait spray will not reach their habitats nor affect any component of them. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by aerial and mist blower applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Alabama
Diazinon Soil Drench
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Alabama beach mouse

Perdido Key beach mouse

Sea turtles (4)

Alabama red-bellied turtle

Piping plover

Wood stork

Gulf sturgeon

Red-cockaded woodpecker

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of diazinon soil drench will not reach their habitats nor affect any component of them. The use of diazinon soil drench will be restricted to within the drip line of infested host trees, and program personnel will be present during the entire application and watering-in periods. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of diazinon to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by localized use of diazinon soil drenches.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Gopher tortoise

Off-road vehicles associated with diazinon soil drench activities may collapse tortoise burrows, harming any tortoises or snakes therein; also, off-road vehicles may run over tortoises or snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Alabama
Sterile Insect Technique
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Alabama red-bellied turtle
Gulf sturgeon

Piping plover
Sea turtles (4)

Wood stork

These vertebrates are found within the counties where Medfly treatments may occur, but off-target movement of sterile insects will not reach their habitats nor affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Alabama beach mouse

Perdido Key beach mouse

Red-cockaded woodpecker

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of sterile insects reaching their habitats will not affect any component of them; therefore, they will not be affected.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Gopher tortoise

Off-road vehicles associated with sterile insect releases may collapse tortoise burrows, harming any tortoises or snakes therein; also, off-road vehicles may run over tortoises or snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Arizona Host Denial Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|----------------------------------|--|--------------------------|
| Arizona agave | Kearney's blue-star | Sonoran pronghorn |
| Arizona cliffrose | Loach minnow | Spikedace |
| Arizona hedgehog cactus | Masked bobwhite | Whooping crane |
| Beautiful shiner | Mexican spotted owl | Yaqui catfish |
| Brown pelican | New Mexican ridge-nosed rattlesnake | Yaqui chub |
| Cochise pincushion cactus | Nichol's Turk's head cactus | Yuma clapper rail |
| Desert pupfish | Razorback sucker | |
| Gila topminnow | Sonora chub | |

The habitats of these species are not areas that have the potential to be treated during Medfly control efforts; therefore, these species will not be affected by host denial activities.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|----------------------------------|-------------------|------------------------------|
| American peregrine falcon | Bald eagle | Lesser long-nosed bat |
|----------------------------------|-------------------|------------------------------|

These species occur in habitats that are not likely to be subject to host denial activities, and these species are not dependent upon agricultural produce; therefore, no effect is expected from use of host denial techniques.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Pima pineapple cactus

Off-road vehicle use and disturbance to the surface ground area associated with host denial activities within the habitat of this cactus could crush this plant.

No vehicle use will be permitted off established roads and trails within the occupied range of this species; therefore, this species will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Arizona

Ground-based Malathion Bait Spray (Exclusive of Mist Blowers)

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Beautiful shiner

Loach minnow

Whooping crane

Brown pelican

Razorback sucker

Yaqui catfish

Desert pupfish

Sonora chub

Yaqui chub

Gila topminnow

Spikedace

Yuma clapper rail

These species are found within the counties where Medfly eradication treatment may occur, but any off-target movement of ground-applied malathion bait spray will not reach their habitats or significantly affect any component of them. Additionally, for those species with aquatic habitats, the Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control); therefore, these species will not be affected by ground applications of malathion bait spray.

American peregrine falcon

Cochise pincushion cactus

**New Mexican ridge-nosed
rattlesnake**

Arizona agave

Kearney's blue-star

Nichol's Turk's head cactus

Arizona cliffrose

Lesser long-nosed bat

Sonoran pronghorn

Arizona hedgehog cactus

Masked bobwhite

Bald eagle

Mexican spotted owl

The habitats of these species are not areas that have the potential to be treated with ground use of malathion bait during Medfly control efforts; therefore, these species will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Pima pineapple cactus

This plant and its habitat are found within the counties where Medfly eradication treatments may occur, but any off-target drift of ground-applied malathion bait spray will not reach its habitat or significantly affect populations of pollinators and other beneficial insects; therefore, this plant will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Arizona

Male Annihilation Technique

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|------------------|-------------------------------------|-------------------|
| Beautiful shiner | Mexican spotted owl | Whooping crane |
| Brown pelican | New Mexican ridge-nosed rattlesnake | Yaqui catfish |
| Desert pupfish | Razorback sucker | Yaqui chub |
| Gila topminnow | Sonora chub | Yuma clapper rail |
| Loach minnow | Sonoran pronghorn | |
| Masked bobwhite | Spikedace | |

The habitats of these species are not areas that have the potential to be treated during Medfly control efforts; therefore, these species will not be affected by annihilation of male Medflies.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|---------------------------|---------------------------|-----------------------------|
| American peregrine falcon | Bald eagle | Nichol's Turk's head cactus |
| Arizona agave | Cochise pincushion cactus | Pima pineapple cactus |
| Arizona cliffrose | Kearney's blue-star | |
| Arizona hedgehog cactus | Lesser long-nosed bat | |

These species occur in habitats that are not likely to be subject to extensive Medfly trapping, and no effect is expected from removal of male Medflies from adjacent areas.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Arizona

Aerial and Mist Blower Use of Malathion Bait Spray

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Beautiful shiner

Loach minnow

Whooping crane

Brown pelican

Razorback sucker

Yaqui catfish

Desert pupfish

Sonora chub

Yaqui chub

Gila topminnow

Spikedace

Yuma clapper rail

The habitats of these species are not in areas that have the potential to be treated during Medfly eradication efforts. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control); therefore, these species will not be affected by aerial and mist blower applications of malathion bait spray.

Arizona agave

Masked bobwhite

**New Mexican ridge-nosed
rattlesnake**

Lesser long-nosed bat

Mexican spotted owl

Sonoran pronghorn

The habitats of these species are not areas that have the potential to be treated with aerial and mist blower sprays of malathion bait during Medfly control efforts; therefore, these species will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Arizona cliffrose

Cochise pincushion cactus

Nichol's Turk's head cactus

Arizona hedgehog cactus

Kearney's blue-star

These plants occur in habitats that are not likely to be subject to aerial and mist blower malathion bait spray treatments. They are, however, likely pollinated by insects that may be reduced in numbers by off-target drift of the malathion bait spray. The reduction of pollinators and other beneficial insects in any year may result in fewer than normal progeny being produced during the lifespan of any of these plants.

To avoid affecting pollinators, APHIS, in conjunction with FWS, will determine the area within which pollinators may be affected. APHIS will not conduct aerial or mist blower spraying of pesticides over any of these affected areas around plants during their blooming period. Thus, these species will not be affected.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

American peregrine falcon

Bald eagle

Although a few insectivorous birds may be affected by ingestion of malathion-contaminated insects, the food base of these endangered birds will not be adversely affected because neither the insectivorous birds nor other birds that form part of the food base of these endangered birds will be affected. The aquatic foraging habitat of the bald eagle is protected by FIFRA restrictions governing the use of malathion. There is no evidence for potential secondary poisoning of birds from ingestion of contaminated prey, and these birds will not be exposed to sufficient malathion to cause primary intoxication. The presence of aircraft and attendant personnel associated with aerial spraying during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of these birds during their courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, these species will not be affected.

Pima pineapple cactus

This plant likely is pollinated by insects that may be affected directly by drift from aerial and mist blower malathion bait spray. Reduction of pollinators and beneficial insects in any year may result in fewer than normal progeny being produced during the lifespan of this plant.

To avoid measurable effects to pollinator populations, APHIS will not conduct aerial or mist blower malathion bait spray applications within the FWS-approved no aerial/mist blower activity zone.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Arizona

Diazinon Soil Drench

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|----------------------------------|--|--------------------------|
| American peregrine falcon | Loach minnow | Sonoran pronghorn |
| Bald eagle | Masked bobwhite | Spikedace |
| Beautiful shiner | Mexican spotted owl | Whooping crane |
| Brown pelican | New Mexican ridge-nosed rattlesnake | Yaqui catfish |
| Desert pupfish | Razorback sucker | Yaqui chub |
| Gila topminnow | Sonora chub | Yuma clapper rail |

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of diazinon soil drench will not reach their habitats nor affect any component of them. The use of diazinon soil drench will be restricted to within the drip line of infested host trees, and program personnel will be present during the entire application and watering-in periods. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of diazinon to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by localized use of diazinon soil drenches.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|--------------------------------|----------------------------------|------------------------------------|
| Arizona agave | Cochise pincushion cactus | Nichol's Turk's head cactus |
| Arizona cliffrose | Kearney's blue-star | |
| Arizona hedgehog cactus | Lesser long-nosed bat | |

These species occur in habitats that are not likely to be subject to diazinon soil drench treatments. The likely insect pollinators of the plant species will not be reduced in numbers by the localized application of diazinon; therefore, these species will not be affected by localized soil drenches of diazinon under infested host trees.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Pima pineapple cactus

The populations of likely insect pollinators for this plant will not be measurably reduced in numbers by the localized application of diazinon; therefore, this species will not be affected by localized soil drenches of diazinon under infested host trees.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Arizona

Sterile Insect Technique

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Beautiful shiner

Loach minnow

Whooping crane

Brown pelican

Razorback sucker

Yaqui catfish

Desert pupfish

Sonora chub

Yaqui chub

Gila topminnow

Spikedace

Yuma clapper rail

The habitats of these species are not areas that have the potential to be treated during Medfly control efforts; therefore, these species will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Arizona agave

Kearney's blue-star

**New Mexican ridge-nosed
rattlesnake**

Arizona cliffrose

Lesser long-nosed bat

Nichol's Turk's head cactus

Arizona hedgehog cactus

Masked bobwhite

Pima pineapple cactus

Cochise pincushion cactus

Mexican spotted owl

Sonoran pronghorn

The habitats of these species are not areas that are likely to be treated during Medfly control efforts. Any sterile Medflies that wander off the designated drop zone and reach the habitats will not affect these species or any component of their habitats; therefore, these species will not be affected.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

American peregrine falcon

Bald eagle

Although these species will not be affected by exposure to sterile insects, if aerial release of sterile Medflies is used, the presence of aircraft and attendant personnel associated with aerial releases during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of these birds during their courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, these species will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

**California
Host Denial
Categories of Potential Impact**

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|----------------------------------|---------------------------------------|---|
| Bonytail chub | Lahontan cutthroat trout | San Clemente sage sparrow |
| California linderiella | Little Kern golden trout | Southern sea otter |
| Colorado squawfish | Longhorn fairy shrimp | Unarmored threespine stickleback |
| Conservancy fairy shrimp | Mohave tui chub | Vernal pool fairy shrimp |
| Delta smelt | Paiute cutthroat trout | Vernal pool tadpole shrimp |
| Desert pupfish | Razorback sucker | Winter-run chinook salmon |
| Desert slender salamander | Riverside fairy shrimp | |
| Island night lizard | San Clemente loggerhead shrike | |

Host denial techniques will not affect these species.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|-------------------------------------|-------------------------------|---------------------------------------|
| Aleutian Canada goose | Fresno kangaroo rat | Salt marsh harvest mouse |
| American peregrine falcon | Gambel's watercress | San Bernardino bladderpod |
| Antioch Dunes evening-primrose | Giant garter snake | San Bruno elfin butterfly |
| Arctic peregrine falcon | Giant kangaroo rat | San Clemente Island broom |
| Bakersfield cactus | Hoover's wooly-star | San Clemente Island bush-mallow |
| Bald eagle | Indian Knob mountainbalm | San Clemente Island Indian paintbrush |
| Bay checkerspot butterfly | Least Bell's vireo | San Clemente Island larkspur |
| Beach layia | Light-footed clapper rail | San Diego button-celery |
| Ben Lomond spineflower | Kern mallow | San Diego mesa mint |
| Ben Lomond wallflower | Kern primrose sphinx moth | San Francisco garter snake |
| Blunt-nosed leopard lizard | Lane Mountain milkvetch | San Joaquin kit fox |
| California brown pelican | Lange's metalmark butterfly | San Joaquin wooly-threads |
| California clapper rail | Large-flowered fiddleneck | San Mateo thornmint |
| California condor | Marbled murrelet | Santa Ana River wooly-star |
| California jewelflower | Marsh sandwort | Santa Barbara Island live-forever |
| California least tern | Mission blue butterfly | Santa Cruz cypress |
| California orcutt grass | Monterey spineflower | Santa Cruz long-toed salamander |
| California sea-blite | Morro Bay kangaroo rat | Scotts Valley spineflower |
| Chorro Creek bog thistle | Morro manzanita | Slender-horned spineflower |
| Coachella Valley fringe-toed lizard | Morro shoulderband snail | Slender-petaled mustard |
| Coachella Valley milkvetch | Myrtle's silverspot butterfly | Stephens' kangaroo rat |
| Coastal California gnatcatcher | Otay mesa mint | Tipton kangaroo rat |
| Contra Costa wallflower | Palmate-bracted bird's-beak | Triple-ribbed milkvetch |
| Cushenbury buckwheat | Palos Verdes blue butterfly | Valley elderberry longhorn beetle |
| Cushenberry milkvetch | Parish's daisy | Western snowy plover |
| Cushenbury oxytheca | Pedate checker-mallow | Yuma clapper rail |
| Desert tortoise | Pismo clarkia | |
| El Segundo blue butterfly | Salt marsh bird's beak | |

Host denial techniques will not affect these species.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

California

Ground-based Malathion Bait Spray (Exclusive of Mist Blowers)

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|---------------------------------|---------------------------------|---|
| Bonytail chub | Lahontan cutthroat trout | Riverside fairy shrimp |
| California linderiella | Little Kern golden trout | Southern sea otter |
| Colorado squawfish | Longhorn fairy shrimp | Unarmored threespine stickleback |
| Conservancy fairy shrimp | Mohave tui chub | Vernal pool fairy shrimp |
| Delta smelt | Paiute cutthroat trout | Vernal pool tadpole shrimp |
| Desert pupfish | Razorback sucker | Winter-run chinook salmon |

These species are found within the counties where Medfly treatments may occur, but any off-target movement of ground-applied malathion bait spray will not reach their habitats nor affect any component of them. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by ground applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|---------------------------------|---------------------------------------|-----------------------------------|
| Aleutian Canada goose | Light-footed clapper rail | San Francisco garter snake |
| California brown pelican | Marbled murrelet | Western snowy plover |
| California clapper rail | Morro shoulderband snail | Yuma clapper rail |
| California least tern | Salt marsh harvest mouse | |
| Giant garter snake | San Clemente loggerhead shrike | |

The foraging habits and mobility of these species will allow them to avoid the specific trees and shrubs treated with malathion bait spray; therefore, they will not be affected by the localized treatments.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|-------------------------------------|-----------------------------|---------------------------------------|
| American peregrine falcon | Desert tortoise | San Clemente Island broom |
| Antioch Dunes evening-primrose | Fresno kangaroo rat | San Clemente Island bush-mallow |
| Arctic peregrine falcon | Gambel's watercress | San Clemente Island Indian paintbrush |
| Bakersfield cactus | Giant kangaroo rat | San Clemente Island larkspur |
| Bald eagle | Hoover's woolly-star | San Clemente sage sparrow |
| Beach layia | Indian Knob mountainbalm | San Diego button-celery |
| Ben Lomond spineflower | Island night lizard | San Diego mesa mint |
| Ben Lomond wallflower | Kern mallow | San Joaquin kit fox |
| Blunt-nosed leopard lizard | Lane Mountain milkvetch | San Joaquin woolly-threads |
| California condor | Large-flowered fiddleneck | San Mateo thornmint |
| California jewelflower | Least Bell's vireo | Santa Ana River woolly-star |
| California orcutt grass | Marsh sandwort | Santa Barbara Island live-forever |
| California sea-blite | Monterey spineflower | Santa Cruz cypress |
| Chorro Creek bog thistle | Morro Bay kangaroo rat | Santa Cruz long-toed salamander |
| Coachella Valley fringe-toed lizard | Morro manzanita | Scotts Valley spineflower |
| Coachella Valley milkvetch | Otay mesa mint | Slender-horned spineflower |
| Coastal California gnatcatcher | Palmate-bracted bird's-beak | Slender-petaled mustard |
| Contra Costa wallflower | Parish's daisy | Stephens' kangaroo rat |
| Cushenbury buckwheat | Pedate checker-mallow | Tipton kangaroo rat |
| Cushenberry milkvetch | Pismo clarkia | Triple-ribbed milkvetch |
| Cushenbury oxytheca | Salt marsh bird's-beak | |
| Desert slender salamander | San Bernardino bladderpod | |

None of these species will be directly exposed to malathion bait from ground applications; therefore, they will not be affected.

| | | |
|---------------------------|-------------------------------|-----------------------------------|
| Bay checkerspot butterfly | Lange's metalmark butterfly | Palos Verdes blue butterfly |
| El Segundo blue butterfly | Mission blue butterfly | San Bruno elfin butterfly |
| Kern primrose sphinx moth | Myrtle's silverspot butterfly | Valley elderberry longhorn beetle |

No malathion bait spray will be used in any area where and when adults of these species are present. Other life stages of these species are not susceptible to intoxication from malathion bait spray applications. Therefore, these species will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

California

Male Annihilation Technique

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|--------------------------|---------------------------|----------------------------------|
| Aleutian Canada goose | Giant garter snake | Salt marsh harvest mouse |
| Bonytail chub | Lahontan cutthroat trout | San Francisco garter snake |
| California brown pelican | Light-footed clapper rail | Southern sea otter |
| California clapper rail | Little Kern golden trout | Unarmored threespine stickleback |
| California least tern | Longhorn fairy shrimp | Vernal pool fairy shrimp |
| California linderiella | Mohave tui chub | Vernal pool tadpole shrimp |
| Colorado squawfish | Morro shoulderband snail | Western snowy plover |
| Conservancy fairy shrimp | Paiute cutthroat trout | Winter-run chinook salmon |
| Delta smelt | Razorback sucker | Yuma clapper rail |
| Desert pupfish | Riverside fairy shrimp | |

Implementation of male annihilation techniques are not expected to have any effect on these species.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|-------------------------------------|-------------------------------|---------------------------------------|
| American peregrine falcon | Fresno kangaroo rat | Salt marsh bird's-beak |
| Antioch Dunes evening-primrose | Gambel's watercress | San Bernardino bladderpod |
| Arctic peregrine falcon | Giant kangaroo rat | San Bruno elfin butterfly |
| Bakersfield cactus | Hoover's wooly-star | San Clemente Island broom |
| Bald eagle | Indian Knob mountainbalm | San Clemente Island bush-mallow |
| Bay checkerspot butterfly | Island night lizard | San Clemente Island Indian paintbrush |
| Beach layia | Kern mallow | San Clemente Island larkspur |
| Ben Lomond spineflower | Kern primrose sphinx moth | San Clemente loggerhead shrike |
| Ben Lomond wallflower | Lane Mountain milkvetch | San Clemente sage sparrow |
| Blunt-nosed leopard lizard | Lange's metalmark butterfly | San Diego button-celery |
| California condor | Large-flowered fiddleneck | San Diego mesa mint |
| California jewelflower | Least Bell's vireo | San Joaquin kit fox |
| California orcutt grass | Marbled murrelet | San Joaquin wooly-threads |
| California sea-blite | Marsh sandwort | San Mateo thornmint |
| Chorro Creek bog thistle | Mission blue butterfly | Santa Ana River wooly-star |
| Coachella Valley fringe-toed lizard | Monterey spineflower | Santa Barbara Island live-forever |
| Coachella Valley milkvetch | Morro Bay kangaroo rat | Santa Cruz cypress |
| Coastal California gnatcatcher | Morro manzanita | Santa Cruz long-toed salamander |
| Contra Costa wallflower | Myrtle's silverspot butterfly | Scotts Valley spineflower |
| Cushenbury buckwheat | Otay mesa mint | Slender-horned spineflower |
| Cushenberry milkvetch | Palmate-bracted bird's-beak | Slender-petaled mustard |
| Cushenbury oxytheca | Palos Verdes blue butterfly | Stephens' kangaroo rat |
| Desert slender salamander | Parish's daisy | Tipton kangaroo rat |
| Desert tortoise | Pedate checker-mallow | Triple-ribbed milkvetch |
| El Segundo blue butterfly | Pismo clarkia | Valley elderberry longhorn beetle |

Implementation of male annihilation techniques are not expected to have any effect on these species.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

California

Aerial and Mist Blower Use of Malathion Bait Spray

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|---------------------------------|---------------------------------|---|
| Bonytail chub | Lahontan cutthroat trout | Riverside fairy shrimp |
| California linderiella | Little Kern golden trout | Southern sea otter |
| Colorado squawfish | Longhorn fairy shrimp | Unarmored threespine stickleback |
| Conservancy fairy shrimp | Mohave tui chub | Vernal pool fairy shrimp |
| Delta smelt | Paiute cutthroat trout | Vernal pool tadpole shrimp |
| Desert pupfish | Razorback sucker | Winter-run chinook salmon |

The habitats of these species are not areas that have the potential to be treated during Medfly control efforts. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control); therefore, these species will not be affected by aerial and mist blower applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|----------------------------------|--------------------------------------|--|
| Bay checkerspot butterfly | Lange's metalmark butterfly | Palos Verdes blue butterfly |
| El Segundo blue butterfly | Mission blue butterfly | San Bruno elfin butterfly |
| Kern primrose sphinx moth | Myrtle's silverspot butterfly | Valley elderberry longhorn beetle |

It is not anticipated that aerial or mist blower spraying of malathion bait spray will occur in any habitats regularly used by these species. Additionally no aerial or mist blower spraying will be done in any area where and when adults of these species are present. Other life stages of these species are not susceptible to intoxication from malathion bait spray applications. Therefore, they will not be affected.

| | | |
|---------------------------------|-----------------------------------|-----------------------------|
| California brown pelican | Light-footed clapper rail | Western snowy plover |
| California clapper rail | Morro shoulderband snail | Yuma clapper rail |
| California least tern | Salt marsh harvest mouse | |
| Giant garter snake | San Francisco garter snake | |

The foraging habits and mobility of these species preclude any direct or indirect effect from aerial or mist blower use of malathion bait spray.

2., continued.

American peregrine falcon

Bald eagle

**San Clemente loggerhead
shrike**

Arctic peregrine falcon

Marbled murrelet

These species will not be exposed to sufficient malathion to cause primary intoxication. However, these species may be affected during the nesting season by the presence of spray aircraft and associated personnel, resulting in inadequate brooding, feeding of hatched young, or in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity during courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct aerial activity within FWS-approved no-aerial-activity zones. The mobility of these species will allow them to avoid areas being treated elsewhere during the year. Thus, these species will not be affected.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

**Antioch Dunes evening-
primrose**

Hoover's wooly-star

San Clemente Island broom

Bakersfield cactus

Indian knob mountainbalm

**San Clemente Island bush-
mallow**

Beach layia

Kern mallow

**San Clemente Island Indian
paintbrush**

Ben Lomond spineflower

Lane Mountain milkvetch

San Clemente Island larkspur

Ben Lomond wallflower

Large-flowered fiddleneck

San Diego button-celery

California jewelflower

Marsh sandwort

San Diego mesa mint

California orcutt grass

Monterey spineflower

San Joaquin wooly-threads

California sea-blite

Morro manzanita

San Mateo thornmint

Chorro Creek bog thistle

Otay mesa mint

Santa Ana River wooly-star

Coachella Valley milkvetch

Palmate-bracted bird's beak

**Santa Barbara Island live-
forever**

Contra Costa wallflower

Parish's daisy

Santa Cruz cypress

Cushenbury buckwheat

Pedate checker-mallow

Scotts Valley spineflower

Cushenberry milkvetch

Pismo clarkia

Slender-horned spineflower

Cushenbury oxytheca

Salt marsh bird's beak

Slender-petaled mustard

Gambel's watercress

San Bernardino bladderpod

Triple-ribbed milkvetch

To avoid affecting pollinators, APHIS, in conjunction with FWS, will determine the area where pollinators may be affected, and will conduct no aerial or mist blower spraying of pesticides over any of these affected areas around plants during their blooming period. It is not anticipated that aerial or mist blower spraying during the nonflowering period will reduce generalized pollinators below levels that will affect the plants. Thus, these species will not be affected.

4., continued.

| | | |
|--|----------------------------|--|
| Blunt-nosed leopard lizard | Desert tortoise | Morro Bay kangaroo rat |
| California condor | Fresno kangaroo rat | Santa Cruz long-toed salamander |
| Coachella Valley fringe-toed lizard | Giant kangaroo rat | Stephens' kangaroo rat |
| Desert slender salamander | Island night lizard | Tipton kangaroo rat |

To avoid direct contamination and food web effects, the program will conduct no aerial or mist blower spraying over locations where these species are found. Aerial or mist blower spraying during seasons when these species are not active (aestivation, hibernation) is not anticipated to affect them.

| | | |
|---------------------------------------|----------------------------------|----------------------------|
| Aleutian Canada goose | Least Bell's vireo | San Joaquin kit fox |
| Coastal California gnatcatcher | San Clemente sage sparrow | |

No more than one aerial or mist blower spraying of malathion bait will be done where these species occur. It is not anticipated that a single spraying will reduce the food source or expose these species to intoxicating levels of pesticide.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

California Diazinon Soil Drench Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|--------------------------|--------------------------|----------------------------------|
| Bonytail chub | Lahontan cutthroat trout | Riverside fairy shrimp |
| California linderiella | Little Kern golden trout | Southern sea otter |
| Colorado squawfish | Longhorn fairy shrimp | Unarmored threespine stickleback |
| Conservancy fairy shrimp | Mohave tui chub | Vernal pool fairy shrimp |
| Delta smelt | Paiute cutthroat trout | Vernal pool tadpole shrimp |
| Desert pupfish | Razorback sucker | Winter-run chinook salmon |

These species are found within the counties where Medfly treatments may occur, but any off-target movement of diazinon soil drench will not reach their habitats nor affect any component of them. The use of diazinon soil drench will be restricted to within the drip line of infested host trees, and program personnel will be present during the entire application and watering-in periods. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) labeling restrictions prohibit the application of diazinon to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by localized use of diazinon soil drenches.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|--------------------------|----------------------------|----------------------|
| California brown pelican | Light-footed clapper rail | Western snowy plover |
| California clapper rail | Morro shoulderband snail | Yuma clapper rail |
| California least tern | Salt marsh harvest mouse | |
| Giant garter snake | San Francisco garter snake | |

The foraging habits and mobility of these species preclude any direct or indirect effect from diazinon soil drench.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|--|--------------------------------------|--|
| Aleutian Canada goose | El Segundo blue butterfly | Pismo clarkia |
| American peregrine falcon | Fresno kangaroo rat | Salt marsh bird's beak |
| Antioch Dunes evening-primrose | Gambel's watercress | San Bernardino bladderpod |
| Arctic peregrine falcon | Giant kangaroo rat | San Bruno elfin butterfly |
| Bakersfield cactus | Hoover's wooly-star | San Clemente Island broom |
| Bald eagle | Indian Knob mountainbalm | San Clemente Island bush-mallow |
| Bay checkerspot butterfly | Island night lizard | San Clemente Island Indian paintbrush |
| Beach layia | Kern mallow | San Clemente Island larkspur |
| Ben Lomond spineflower | Kern primrose sphinx moth | San Clemente loggerhead shrike |
| Ben Lomond wallflower | Lane Mountain milkvetch | San Clemente sage sparrow |
| Blunt-nosed leopard lizard | Lange's metalmark butterfly | San Diego button-celery |
| California condor | Large-flowered fiddleneck | San Diego mesa mint |
| California jewelflower | Least Bell's vireo | San Joaquin kit fox |
| California orcutt grass | Marbled murrelet | San Joaquin wooly-threads |
| California sea-blite | Marsh sandwort | Santa Ana River wooly-star |
| Chorro Creek bog thistle | Mission blue butterfly | Santa Barbara Island live-forever |
| Coachella Valley fringe-toed lizard | Monterey spineflower | Santa Cruz cypress |
| Coachella Valley milkvetch | Morro Bay kangaroo rat | Santa Cruz long-toed salamander |
| Coastal California gnatcatcher | Morro manzanita | Scotts Valley spineflower |
| Contra Costa wallflower | Myrtle's silverspot butterfly | Slender-petaled mustard |
| Cushenbury buckwheat | Otay mesa mint | Slender-horned spineflower |
| Cushenberry milkvetch | Palmate-bracted bird's-beak | Stephens' kangaroo rat |
| Cushenbury oxytheca | Palos Verdes blue butterfly | Tipton kangaroo rat |
| Desert tortoise | Parish's daisy | Triple-ribbed milkvetch |
| Desert slender salamander | Pedate checker-mallow | Valley elderberry longhorn beetle |

In addition to FIFRA restrictions that protect aquatic habitats, the use of diazinon soil drench will be restricted to within the drip line of infested host trees, and program personnel will be present during the entire application and watering-in periods; therefore, these species will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

California

Sterile Insect Technique

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.
2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|---------------------------|--------------------------------|----------------------------------|
| Bonytail chub | Lahontan cutthroat trout | San Clemente sage sparrow |
| California brown pelican | Light-footed clapper rail | San Francisco garter snake |
| California clapper rail | Little Kern golden trout | Santa Cruz long-toed salamander |
| California least tern | Longhorn fairy shrimp | Southern sea otter |
| California linderiella | Mohave tui chub | Unarmored threespine stickleback |
| Colorado squawfish | Morro Bay kangaroo rat | Vernal pool fairy shrimp |
| Conservancy fairy shrimp | Morro shoulderband snail | Vernal pool tadpole shrimp |
| Delta smelt | Paiute cutthroat trout | Western snowy plover |
| Desert pupfish | Razorback sucker | Winter-run chinook salmon |
| Desert slender salamander | Riverside fairy shrimp | Yuma clapper rail |
| Giant garter snake | Salt marsh harvest mouse | |
| Island night lizard | San Clemente loggerhead shrike | |

Release of sterile Medflies will not affect these species.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|-------------------------------------|-------------------------------|---------------------------------------|
| Antioch Dunes evening-primrose | Gambel's watercress | San Bernardino bladderpod |
| Arctic peregrine falcon | Giant kangaroo rat | San Bruno elfin butterfly |
| Bakersfield cactus | Hoover's wooly-star | San Clemente Island broom |
| Bay checkerspot butterfly | Indian Knob mountainbalm | San Clemente Island bush-mallow |
| Beach layia | Kern mallow | San Diego button-celery |
| Ben Lomond wallflower | Kern primrose sphinx moth | San Clemente Island Indian paintbrush |
| Ben Lomond spineflower | Lane Mountain milkvetch | San Clemente Island larkspur |
| Blunt-nosed leopard lizard | Lange's metalmark butterfly | San Diego mesa mint |
| California jewelflower | Large-flowered fiddleneck | San Joaquin kit fox |
| California orcutt grass | Marsh sandwort | San Joaquin wooly-threads |
| California sea-blite | Mission blue butterfly | San Mateo thornmint |
| Chorro Creek bog thistle | Monterey spineflower | Santa Ana River wooly-star |
| Coachella Valley fringe-toed lizard | Morro manzanita | Santa Barbara Island live-forever |
| Coachella Valley milkvetch | Myrtle's silverspot butterfly | Santa Cruz cypress |
| Contra Costa wallflower | Otay mesa mint | Scotts Valley spineflower |
| Cushenberry buckwheat | Palmate-bracted bird's-beak | Slender-horned spineflower |
| Cushenbury milkvetch | Palos Verdes blue butterfly | Slender-petaled mustard |
| Cushenbury oxytheca | Parish's daisy | Stephens' kangaroo rat |
| Desert tortoise | Pedate checker-mallow | Tipton kangaroo rat |
| El Segundo blue butterfly | Pismo clarkia | Triple-ribbed milkvetch |
| Fresno kangaroo rat | Salt marsh bird's-beak | Valley elderberry longhorn beetle |

Release of sterile Medflies will not affect these species.

| | | |
|---------------------------|--------------------------------|--------------------|
| Aleutian Canada goose | Bald eagle | Least Bell's vireo |
| American peregrine falcon | Coastal California gnatcatcher | Marbled murrelet |

Although these species will not be affected by exposure to sterile insects, if aerial release of sterile Medflies is used, the presence of aircraft and attendant personnel associated with aerial releases during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of these birds during their courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct aerial activity within FWS-approved no-aerial-activity zones. Thus, these species will not be affected.

California condor

Release of sterile Medflies will not affect the condor; however, to preclude disturbance of this bird, no aerial activity will be conducted within its known active range.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Florida Host Denial Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|------------------------------------|----------------------------|---------------------------------|
| American crocodile | Four-petal pawpaw | Red-cockaded woodpecker |
| Atlantic salt marsh snake | Gulf sturgeon | Roseate tern |
| Britton's beargrass | Key deer | Scrub wild buckwheat |
| Cape Sable sparrow | Key Largo woodrat | Sea turtles (5) |
| Everglades snail kite | Key tree-cactus | Silver rice rat |
| Florida grasshopper sparrow | Lower Keys rabbit | Southeastern beach mouse |
| Florida bonamia | Okeechobee gourd | West Indian manatee |
| Florida panther | Papery whitlow-wort | Wood stork |
| Florida scrub jay | Piping plover | |

The habitats of these species are not areas that have the potential to be treated during Medfly control efforts; therefore, these species will not be affected by host denial activities.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|-----------------------------------|-------------------------------|-------------------------------------|
| Audubon's crested caracara | Fragrant prickly-apple | Schaus swallowtail butterfly |
| Bald eagle | Garber's spurge | Scrub lupine |
| Beautiful pawpaw | Key Largo cotton mouse | Small's milkpea |
| Crenulate lead-plant | Lakela's mint | Stock Island tree snail |
| Florida golden aster | Sandlace | Tiny polygala |

These species occur in habitats that are not likely to be subject to host denial activities, and they are not dependent upon agricultural produce; therefore, no effect is expected from use of host denial techniques.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Sand skink

Off-road vehicles associated with host denial activities may drive over and squash these species.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Florida

Ground-based Malathion Bait Spray (Exclusive of Mist Blowers)

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|-----------------------------|------------------------|--------------------------|
| American crocodile | Florida scrub jay | Red-cockaded woodpecker |
| Atlantic salt marsh snake | Four-petal pawpaw | Roseate tern |
| Audubon's crested caracara | Fragrant prickly-apple | Sandlace |
| Bald eagle | Garber's spurge | Scrub lupine |
| Beautiful pawpaw | Gulf sturgeon | Scrub wild buckwheat |
| Britton's beargrass | Key deer | Piping plover |
| Cape Sable sparrow | Key Largo cotton mouse | Sea turtles (5) |
| Crenulate lead-plant | Key Largo woodrat | Silver rice rat |
| Everglades snail kite | Key tree-cactus | Small's milkpea |
| Florida bonamia | Lakela's mint | Southeastern beach mouse |
| Florida golden aster | Lower Keys rabbit | Tiny polygala |
| Florida grasshopper sparrow | Okeechobee gourd | West Indian manatee |
| Florida panther | Papery whitlow-wort | Wood stork |

These species are found within the counties where Medfly treatments may occur, but any off-target movement of ground-applied malathion bait spray will not reach their habitats or significantly affect any component of them. Additionally for those species with aquatic habitats, Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of malathion to water (this includes runoff control); therefore, these species will not be affected by ground applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Sand skink

These two vertebrates may be squashed by off-road use of vehicles during ground-applied malathion bait spraying operations.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

Schaus swallowtail butterfly

Stock Island tree snail

These two invertebrates may be directly affected by the malathion bait spray, resulting in increased susceptibility to predation, reproductive failure, or direct mortality.

To preclude any effect on these species, APHIS, in conjunction with FWS, will determine the occupied range of these species and will not use pesticides within this range.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Florida Male Annihilation Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|------------------------------------|----------------------------|---------------------------------|
| American crocodile | Four-petal pawpaw | Red-cockaded woodpecker |
| Atlantic salt marsh snake | Gulf sturgeon | Roseate tern |
| Britton's beargrass | Key deer | Scrub wild buckwheat |
| Cape Sable sparrow | Key Largo woodrat | Sea turtles (5) |
| Everglades snail kite | Key tree-cactus | Silver rice rat |
| Florida bonamia | Lower Keys rabbit | Southeastern beach mouse |
| Florida grasshopper sparrow | Okeechobee gourd | West Indian manatee |
| Florida panther | Papery whitlow-wort | Wood stork |
| Florida scrub jay | Piping plover | |

These species are found within the counties where Medfly treatments may occur, but no male annihilation activities will reach their habitats.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|-----------------------------------|-------------------------------|-------------------------------------|
| Audubon's crested caracara | Fragrant prickly-apple | Schaus swallowtail butterfly |
| Bald eagle | Garber's spurge | Scrub lupine |
| Beautiful pawpaw | Key Largo cotton mouse | Small's milkpea |
| Crenulate lead-plant | Lakela's mint | Stock Island tree snail |
| Florida golden aster | Sandlace | Tiny polygala |

None of these species will be affected by the male annihilation activities within their habitats.

4., *continued.*

Eastern indigo snake

Sand skink

Off-road vehicles associated with the use of male annihilation may run over these species and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Florida

Aerial and Mist Blower Use of Malathion Bait Spray

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|----------------------------------|--------------------------|---------------------------------|
| American crocodile | Lower Keys rabbit | Southeastern beach mouse |
| Atlantic salt marsh snake | Piping plover | West Indian manatee |
| Everglades snail kite | Roseate tern | Wood stork |
| Gulf sturgeon | Sea turtles (5) | |

The habitats of these species are not areas that have the potential to be treated during Medfly control efforts. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control); therefore, these species will not be affected by aerial or mist blower applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|------------------------------------|--------------------------|--------------------------------|
| Cape Sable sparrow | Florida panther | Red-cockaded woodpecker |
| Florida scrub jay | Key deer | Silver rice rat |
| Florida grasshopper sparrow | Key Largo woodrat | |

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target drift of malathion bait spray that reaches them or their habitats will be of such short duration that it will not result in malathion intoxication of any individuals and it will not affect any component of their habitat.

Sand skink

The sand skink's food source consists of termites and beetle larvae, most of which are caught and eaten while the sand skink is burrowing. The skink's insect food may be depleted by off-target drift of the malathion bait spray.

APHIS, in conjunction with FWS, will determine adequate buffer zones prior to implementing aerial or mist blower malathion bait sprays to prevent the movement of pesticide to the occupied range of this species. Thus, this species will not be affected.

2., *continued.*

Britton's beargrass
Florida bonamia
Four-petal pawpaw

Garber's spurge
Key tree-cactus
Okeechobee gourd

Papery whitlow-wort
Scrub wild buckwheat

These plants are likely pollinated by insects that may be reduced in numbers by off-target drift of the malathion bait spray. The reduction of pollinators and other beneficial insects in any year may result in fewer than normal progeny being produced during the life span of any of these plants.

To avoid affecting pollinators, APHIS, in conjunction with FWS, will determine the area in which pollinators may be affected and will conduct no aerial or mist blower spraying of pesticides over any of these affected areas around plants during their blooming period. Thus, these species will not be affected.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Key Largo cotton mouse

Neither of these vertebrates is dependent upon insect populations that may be directly affected by the malathion bait spray, nor are they likely to suffer from malathion intoxication.

Audubon's crested caracara

Bald eagle

Although a few insectivorous birds may be affected by ingestion of malathion-contaminated insects, the food base of these endangered birds will not be adversely affected because neither the insectivorous birds nor other birds that form part of the food base of these endangered birds will be affected. The aquatic foraging habitat of the bald eagle is protected by FIFRA restrictions governing the use of malathion. There is no evidence for potential secondary poisoning of birds from ingestion of contaminated prey, and these birds will not be exposed to sufficient malathion to cause primary intoxication. The presence of aircraft and attendant personnel associated with aerial spraying during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of these birds during their courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, these species will not be affected.

Schaus swallowtail butterfly

Stock Island tree snail

These two invertebrates may be directly affected by the malathion bait spray, resulting in increased susceptibility to predation, reproductive failure, or indirect mortality.

To preclude any effect on these species, APHIS, in conjunction with FWS, will determine the occupied range of these species and will not use pesticides within this range.

4., continued.

Scrub lupine

Tiny polygala

These two plants are biennials and likely are pollinated by insects that may be affected directly by the malathion bait spray. Because weather may limit pollinator activity in a year, reduction of pollinator numbers in the other year of the 2-year life cycle of these plants may result in fewer than normal progeny being produced.

To avoid affecting pollinators, APHIS, in conjunction with FWS, will determine the area in which pollinators may be affected and will not conduct aerial or mist blower spraying of pesticides over any of these affected areas around plants during their blooming period. Thus, these species will not be affected.

Beautiful pawpaw

Fragrant prickly-apple

Small's milkpea

Crenulate lead-plant

Lakela's mint

Florida golden aster

Sandlace

These plants are perennials and likely are pollinated by insects that may be directly affected by the malathion bait spray. Reduction of pollinator numbers in any year may result in fewer than normal progeny being produced during the life span of any of these plants.

To avoid affecting pollinators, APHIS, in conjunction with FWS, will determine the area in which pollinators may be affected and will not conduct aerial or mist blower spraying of pesticides over any of these affected areas around plants during their blooming period. Thus, these species will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Florida

Diazinon Soil Drench

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|-----------------------------|------------------------|--------------------------|
| American crocodile | Florida scrub jay | Piping plover |
| Atlantic salt marsh snake | Four-petal pawpaw | Red-cockaded woodpecker |
| Audubon's crested caracara | Fragrant prickly-apple | Roseate tern |
| Bald eagle | Garber's spurge | Sandlace |
| Beautiful pawpaw | Gulf sturgeon | Scrub lupine |
| Britton's beargrass | Key deer | Scrub wild buckwheat |
| Cape Sable sparrow | Key Largo cotton mouse | Sea turtles (5) |
| Crenulate lead-plant | Key Largo woodrat | Silver rice rat |
| Everglades snail kite | Key tree-cactus | Small's milkpea |
| Florida bonamia | Lakela's mint | Southeastern beach mouse |
| Florida golden aster | Lower Keys rabbit | Tiny polygala |
| Florida grasshopper sparrow | Okeechobee gourd | West Indian manatee |
| Florida panther | Papery whitlow-wort | Wood stork |

These species are found within the counties where Medfly treatments may occur, but any off-target movement of diazinon soil drench will not reach their habitats nor affect any component of them. The use of diazinon soil drench will be restricted to within the drip line of infested host trees, and program personnel will be present during the entire application and watering-in periods. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of diazinon to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by localized use of diazinon soil drenches.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Sand skink

These two vertebrates may be squashed by off-road use of vehicles during soil drenching operations.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

Schaus swallowtail butterfly

Stock Island tree snail

These two invertebrates may be directly affected by diazinon, resulting in increased susceptibility to predation, reproductive failure, or direct mortality.

To preclude any effect on these species, APHIS, in conjunction with FWS, will determine the occupied range of these species and will not use pesticides within this range.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Florida

Sterile Insect Technique

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Sea turtles (5)

Southeastern beach mouse

West Indian manatee

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target drift of sterile insects will not reach their habitats or affect any component of them.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

American crocodile

Florida scrub jay

Okeechobee gourd

Atlantic salt marsh snake

Four-petal pawpaw

Papery whitlow-wort

Britton's beargrass

Garber's spurge

Piping plover

Cape Sable sparrow

Gulf sturgeon

Red-cockaded woodpecker

Everglades snail kite

Key deer

Roseate tern

Florida bonamia

Key Largo woodrat

Scrub wild buckwheat

Florida grasshopper sparrow

Key tree-cactus

Silver rice rat

Florida panther

Lower Keys rabbit

Wood stork

None of these species will be affected by the presence of sterile Medflies that may drift or wander to their habitats from the site of application.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Beautiful pawpaw

Key Largo cotton mouse

Scrub lupine

Crenulate lead-plant

Lakela's mint

Small's milkpea

Florida golden aster

Sandlace

Stock Island tree snail

Fragrant prickly-apple

Schaus swallowtail butterfly

Tiny polygala

None of these species will be affected by the presence of sterile Medflies within their habitats.

4., continued.

Audubon's crested caracara

Bald eagle

Although these species will not be affected by exposure to sterile insects, if aerial release of sterile Medflies is used, the presence of aircraft and attendant personnel associated with aerial releases during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of these birds during their courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, these species will not be affected.

Eastern indigo snake

Sand skink

Off-road vehicles associated with the release of sterile Medflies may drive over these species and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

**Georgia
Host Denial
Categories of Potential Impact**

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|--------------------------------|--------------------------------|----------------------------|
| Arctic peregrine falcon | Piping plover | West Indian manatee |
| Bachman's warbler | Red-cockaded woodpecker | Whales (2) |
| Bald eagle | Sea turtles (5) | Wood stork |
| Kirtland's warbler | Shortnose sturgeon | |

These vertebrates are found within the counties where Medfly treatments may occur, but host denial activities will not take place in their habitats or affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Off-road vehicles associated with host denial may run over snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of this species; therefore, it will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Georgia
Ground-based Malathion Bait Spray (Exclusive of Mist Blowers)
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Arctic peregrine falcon

Bachman's warbler

Bald eagle

Kirtland's warbler

Piping plover

Red-cockaded woodpecker

Sea turtles (5)

Shortnose sturgeon

West Indian manatee

Whales (2)

Wood stork

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of ground-applied malathion bait spray will not reach their habitats or affect any component of them. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by aerial applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Off-road vehicles associated with ground-based spraying of malathion bait may run over snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of this species; therefore, it will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Georgia
Male Annihilation
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|--------------------------------|--------------------------------|----------------------------|
| Arctic peregrine falcon | Piping plover | West Indian manatee |
| Bachman's warbler | Red-cockaded woodpecker | Whales (2) |
| Bald eagle | Sea turtles (5) | Wood stork |
| Kirtland's warbler | Shortnose sturgeon | |

These vertebrates are found within the counties where Medfly treatments may occur, but annihilation of male Medflies will not take place in their habitats nor affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Off-road vehicles associated with the use of male annihilation may run over snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of this species; therefore, it will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Georgia

Aerial and Mist Blower Use of Malathion Bait Spray

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Arctic peregrine falcon

Red-cockaded woodpecker

Whales (2)

Eastern indigo snake

Sea turtles (5)

Wood stork

Piping plover

West Indian manatee

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of aerially or mist blower applied malathion bait spray will not reach their habitats or affect any component of them. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by aerial or mist blower applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Bachman's warbler

Kirtland's warbler

Although these migratory birds may pass through an area where Medfly control activities are being conducted, their visit will be short and it is unlikely that they will be present during Medfly control activities. Thus, they would not consume contaminated insects and subsequently suffer malathion intoxication, nor would they directly receive an intoxicating dose of aerially or mist blower applied bait spray. Additionally their mobility will allow them to move to areas of greater insect densities should the use of aerial or mist blower malathion bait spray generally reduce their insect prey base in any single area.

If aerial or mist blower activities become necessary, APHIS will not conduct such activities within FWS-approved no-spray zones. Thus, the warblers will not be affected.

4., continued.

Bald eagle

The aquatic foraging habitat of the bald eagle is protected by FIFRA restrictions governing the use of malathion. There is no evidence for potential secondary poisoning of birds from ingestion of contaminated prey, and this bird will not be exposed to sufficient malathion to cause primary intoxication. The presence of aircraft and attendant personnel associated with aerial spraying during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of the bald eagle during its courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, the eagle will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Georgia
Diazinon Soil Drench
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Arctic peregrine falcon

Red-cockaded woodpecker

West Indian manatee

Bald eagle

Sea turtles (5)

Whales (2)

Piping plover

Shortnose sturgeon

Wood stork

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of diazinon soil drench will not reach their habitats nor affect any component of them. The use of diazinon soil drench will be restricted to within the drip line of infested host trees, and program personnel will be present during the entire application and watering-in periods. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of diazinon to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by localized use of diazinon soil drenches.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Bachman's warbler

Kirtland's warbler

Although these migratory birds may pass through an area where Medfly control activities are being conducted, their visit will be short. The use of diazinon soil drench will be restricted to within the drip line of infested host trees, and program personnel will be present during the entire application and watering-in periods; therefore, these species will not be affected.

Eastern indigo snake

Off-road vehicles associated with soil drench activities may run over snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of this species; therefore, it will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Georgia
Sterile Insect Technique
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Piping plover

Shortnose sturgeon

Whales (2)

Sea turtles (5)

West Indian manatee

Wood stork

These vertebrates are found within the counties where Medfly treatments may occur, and off-target movement of sterile insects will not reach their habitats or affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Arctic peregrine falcon

Kirtland's warbler

Bachman's warbler

Red-cockaded woodpecker

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of sterile insects reaching their habitats will not affect any component of them; therefore, they will not be affected.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Off-road vehicles associated with sterile insect release may run over snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of this species; therefore, it will not be affected.

4., *continued.*

Bald eagle

Although the bald eagle will not be affected by exposure to sterile insects, if aerial release of sterile Medflies is used, the presence of aircraft and attendant personnel associated with aerial releases during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of the bald eagle during its courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, the eagle will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

**Louisiana
Host Denial
Categories of Potential Impact**

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Arctic peregrine falcon

Gulf sturgeon

Sea turtles (4)

Bald eagle

Pallid sturgeon

Brown pelican

Piping plover

The habitats of these species are not areas that have the potential to be treated during host denial activities; therefore, these species will not be affected by these Medfly control efforts.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Louisiana
Ground-based Malathion Bait Spray (Exclusive of Mist Blowers)
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Arctic peregrine falcon

Gulf sturgeon

Sea turtles (4)

Bald eagle

Pallid sturgeon

Brown pelican

Piping plover

These species are found within the counties where Medfly treatments may occur, but any off-target movement of ground-applied malathion bait spray will not reach their habitats or significantly affect any component of them. Additionally for those species with aquatic habitats, Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of malathion to water (this includes runoff control); therefore, these species will not be affected by ground applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Louisiana
Male Annihilation
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Arctic peregrine falcon

Gulf sturgeon

Sea turtles (4)

Bald eagle

Pallid sturgeon

Brown pelican

Piping plover

These vertebrates are found within the counties where Medfly treatments may occur, but annihilation of male Medflies will not take place in their habitats or affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Louisiana

Aerial and Mist Blower Use of Malathion Bait Spray

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Arctic peregrine falcon
Brown pelican

Gulf sturgeon
Pallid sturgeon

Piping plover
Sea turtles (4)

The habitats of these species are not areas that have the potential to be treated during Medfly control efforts. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) label restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control); therefore, these species will not be affected by aerial or mist blower applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Bald eagle

The aquatic foraging habitat of the bald eagle is protected by FIFRA restrictions governing the use of malathion. There is no evidence for potential secondary poisoning of birds from ingestion of contaminated prey, and these birds will not be exposed to sufficient malathion to cause primary intoxication. The presence of aircraft and attendant personnel associated with aerial spraying during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of bald eagles during their courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, the eagles will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Louisiana

Diazinon Soil Drench

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Arctic peregrine falcon

Gulf sturgeon

Sea turtles (4)

Bald eagle

Pallid sturgeon

Brown pelican

Piping plover

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of diazinon soil drench will not reach their habitats nor affect any component of them. The use of diazinon soil drench will be restricted to within the drip line of infested host trees, and program personnel will be present during the entire application and watering-in periods. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of diazinon to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by localized use of diazinon soil drenches.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Louisiana Sterile Insect Technique Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Arctic peregrine falcon

Gulf sturgeon

Piping plover

Brown pelican

Pallid sturgeon

Sea turtles (4)

These vertebrates are found within the counties where Medfly treatments may occur, and off-target movement of sterile insects will not reach their habitats or affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Bald eagle

Although the bald eagle will not be affected by exposure to sterile insects, if aerial release of sterile Medflies is used, the presence of aircraft and attendant personnel associated with aerial releases during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of the bald eagle during its courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, the eagle will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

**Mississippi
Host Denial
Categories of Potential Impact**

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Bald eagle

Gulf sturgeon

Red-cockaded woodpecker

Brown pelican

Louisiana black bear

Sea turtles (3)

These vertebrates are found within the counties where Medfly treatments may occur, but host denial activities will not take place in their habitats nor affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Gopher tortoise

Off-road vehicles associated with host denial activities may collapse tortoise burrows, harming any tortoises or snakes therein; also, off-road vehicles may run over tortoises or snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Mississippi
Ground-based Malathion Bait Spray (Exclusive of Mist Blowers)
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Bald eagle
Brown pelican

Gulf sturgeon
Louisiana black bear

Red-cockaded woodpecker
Sea turtles (3)

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of ground-applied malathion bait spray will not reach their habitats nor affect any component of them. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by ground-based applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Gopher tortoise

Off-road vehicles associated with ground-based spraying activities may collapse tortoise burrows, harming any tortoises or snakes therein; also, off-road vehicles may run over tortoises or snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

**Mississippi
Male Annihilation
Categories of Potential Impact**

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Bald eagle

Gulf sturgeon

Red-cockaded woodpecker

Brown pelican

Louisiana black bear

Sea turtles (3)

These vertebrates are found within the counties where Medfly treatments may occur, but annihilation of male Medflies will not take place in the habitats of these vertebrates nor affect any component of them; therefore, these vertebrates will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and those species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Gopher tortoise

Off-road vehicles associated with male annihilation techniques may collapse tortoise burrows, harming any tortoises or snakes therein; also, off-road vehicles may run over tortoises or snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Mississippi

Aerial and Mist Blower Use of Malathion Bait Spray

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Brown pelican

Gulf sturgeon

Sea turtles (3)

Eastern indigo snake

Louisiana black bear

Gopher tortoise

Red-cockaded woodpecker

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of aerial or mist blower applied malathion bait spray will not reach their habitats nor affect any component of them. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by aerial or mist blower applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Bald eagle

The aquatic foraging habitat of the bald eagle is protected by FIFRA restrictions governing the use of malathion. There is no evidence for potential secondary poisoning of birds from ingestion of contaminated prey, and these birds will not be exposed to sufficient malathion to cause primary intoxication. The presence of aircraft and attendant personnel associated with aerial spraying during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of bald eagles during their courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, the eagles will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

**Mississippi
Diazinon Soil Drench
Categories of Potential Impact**

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Bald eagle

Gulf sturgeon

Red-cockaded wodgecker

Brown pelican

Louisiana black bear

Sea turtles (3)

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of diazinon soil drench will not reach their habitats nor affect any component of them. The use of diazinon soil drench will be restricted to within the drip line of infested host trees, and program personnel will be present during the entire application and watering-in periods. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of diazinon to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by localized use of diazinon soil drenches.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Gopher tortoise

Off-road vehicles associated with diazinon soil drench activities may collapse tortoise burrows, harming any tortoises or snakes therein; also, off-road vehicles may run over tortoises or snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

**Mississippi
Sterile Insect Technique
Categories of Potential Impact**

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Brown pelican

Gulf sturgeon

Sea turtles (3)

These vertebrates are found within the counties where Medfly treatments may occur, and off-target movement of sterile insects will not reach their habitats nor affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Louisiana black bear

Red-cockaded woodpecker

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of sterile insects reaching their habitats will not affect any component of them; therefore, they will not be affected.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Eastern indigo snake

Gopher tortoise

Off-road vehicles associated with sterile insect releases may collapse tortoise burrows, harming any tortoises or snakes therein; also, off-road vehicles may run over tortoises or snakes and squash them.

No vehicle use will be permitted off of established roads and trails within the occupied range of these species; therefore, they will not be affected.

4., *continued.*

Bald eagle

Although the bald eagle will not be affected by exposure to sterile insects, if aerial release of sterile Medflies is used, the presence of aircraft and attendant personnel associated with aerial releases during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of the bald eagle during its courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, the eagle will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

South Carolina Host Denial Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

American chaffseed

Loggerhead sea turtle

Sea-beach pigweed

Arctic peregrine falcon

Piping plover

Shortnose sturgeon

Bachman's warbler

Pondberry

West Indian manatee

Bald eagle

Red wolf

Wood stork

Canby's dropwort

Red-cockaded woodpecker

These species are found within the counties where Medfly treatments may occur, but host denial activities will not take place in their habitats or affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

South Carolina

Ground-based Malathion Bait Spray (Exclusive of Mist Blowers)

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|--------------------------------|--------------------------------|----------------------------|
| American chaffseed | Loggerhead sea turtle | Sea-beach pigweed |
| Arctic peregrine falcon | Piping Plover | Shortnose sturgeon |
| Bachman's warbler | Pondberry | West Indian manatee |
| Bald eagle | Red wolf | Wood stork |
| Canby's dropwort | Red-cockaded woodpecker | |

These species are found within the counties where Medfly treatments may occur, but any off-target movement of ground-applied malathion bait spray will not reach their habitats or affect any component of them. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by ground applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

South Carolina Male Annihilation Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|-------------------------|-------------------------|---------------------|
| American chaffseed | Loggerhead sea turtle | Sea-beach pigweed |
| Arctic peregrine falcon | Piping plover | Shortnose sturgeon |
| Bachman's warbler | Pondberry | West Indian manatee |
| Bald eagle | Red wolf | Wood stork |
| Canby's dropwort | Red-cockaded woodpecker | |

These species are found within the counties where Medfly treatments may occur, but annihilation of male Medflies will not take place in their habitats nor affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

South Carolina
Aerial and Mist Blower Use of Malathion Bait Spray
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Arctic peregrine falcon

Pondberry

Shortnose sturgeon

Canby's dropwort

Red wolf

West Indian manatee

Loggerhead sea turtle

Red-cockaded woodpecker

Wood stork

Piping plover

Sea-beach pigweed

These species are found within the counties where Medfly treatments may occur, but any off-target movement of aerially or mist blower applied malathion bait spray will not reach their habitats nor affect any component of them. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by aerial or mist blower applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

American chaffseed

This plant occurs in habitats that are not likely to be subject to aerial or mist blower malathion bait spray treatments. It is, however, likely pollinated by insects that may be reduced in numbers by off-target drift of the malathion bait spray. Reduction of pollinators and other beneficial insects in any year may result in fewer than normal progeny being produced during the life span of this plant.

To avoid affecting pollinators, APHIS, in conjunction with FWS, will determine the area where pollinators may be affected and will not conduct aerial or mist blower spraying of pesticides over any of the affected areas around this plant during its blooming period. Thus, this species will not be affected.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Bachman's warbler

Although this migratory bird may pass through an area where Medfly control activities are being conducted, its visit will be short and it is unlikely that it will be present during Medfly control activities. Thus, it would not consume contaminated insects and subsequently suffer malathion intoxication, nor would it directly receive an intoxicating dose of aerially or mist blower applied bait spray. Additionally its mobility will allow it to move to areas of greater insect densities should the use of aerial or mist blower malathion bait spray generally reduce its insect prey base in any single area.

If aerial or mist blower activities become necessary, APHIS will not conduct such activities within FWS-approved no-spray zones. Thus, the warbler will not be affected.

Bald eagle

The aquatic foraging habitat of the bald eagle is protected by FIFRA restrictions governing the use of malathion. There is no evidence for potential secondary poisoning of birds from ingestion of contaminated prey, and this bird will not be exposed to sufficient malathion to cause primary intoxication. The presence of aircraft and attendant personnel associated with aerial spraying during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of the bald eagle during its courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, the eagle will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

**South Carolina
Diazinon Soil Drench
Categories of Potential Impact**

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|--------------------------------|--------------------------------|----------------------------|
| American chaffseed | Piping plover | Shortnose sturgeon |
| Arctic peregrine falcon | Pondberry | West Indian manatee |
| Bald eagle | Red wolf | Wood stork |
| Canby's dropwort | Red-cockaded woodpecker | |
| Loggerhead sea turtle | Sea-beach pigweed | |

These species are found within the counties where Medfly treatments may occur, but any off-target movement of diazinon soil drench will not reach their habitats nor affect any component of them. The use of diazinon soil drench will be restricted to within the drip line of infested host trees, and program personnel will be present during the entire application and watering-in periods. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of diazinon to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by localized use of diazinon soil drenches.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Bachman's warbler

Although this migratory warbler may pass through an area where Medfly control activities are being conducted, its visit will be short. The use of diazinon soil drench will be restricted to within the drip line of infested host trees and program personnel will be present during the entire application and watering-in periods; therefore, this species will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

South Carolina Sterile Insect Technique Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

Canby's dropwort

Pondberry

Shortnose sturgeon

Loggerhead sea turtle

Red wolf

West Indian manatee

Piping plover

Sea-beach pigweed

Wood stork

These species are found within the counties where Medfly treatments may occur, and off-target movement of sterile insects will not reach their habitats or affect any component of them; therefore, they will not be affected.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

American chaffseed

Bachman's warbler

Arctic peregrine falcon

Red-cockaded woodpecker

These species are found within the counties where Medfly treatments may occur, but any off-target movement of sterile insects reaching their habitats will not affect any component of them; therefore, they will not be affected.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

Bald eagle

Although the bald eagle will not be affected by exposure to sterile insects, if aerial release of sterile Medflies is used, the presence of aircraft and attendant personnel associated with aerial releases during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of the bald eagle during its courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, the eagle will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Texas
Host Denial
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|----------------------------------|---------------------------------|----------------------------------|
| American peregrine falcon | Houston toad | Ocelot |
| Arctic peregrine falcon | Interior least tern | Piping plover |
| Ashy dogweed | Jaguarundi | Star cactus |
| Bald eagle | Johnston's frankenia | Texas prairie dawn-flower |
| Brown pelican | Kemp's ridley sea turtle | Walker's manioc |
| Eskimo curlew | Leatherback sea turtle | Whooping crane |
| Green sea turtle | Loggerhead sea turtle | |
| Hawksbill sea turtle | Northern aplomado falcon | |

The habitats of these species are not areas that have the potential to be subject to host denial activities during Medfly control efforts; therefore, these species will not be affected by host removal.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Texas
Ground-based Malathion Bait Spray (Exclusive of Mist Blowers)
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|----------------------------------|---------------------------------|---------------------------------|
| American peregrine falcon | Hawksbill sea turtle | Loggerhead sea turtle |
| Arctic peregrine falcon | Houston toad | Northern aplomado falcon |
| Bald eagle | Interior least tern | Ocelot |
| Brown pelican | Jaguarundi | Piping plover |
| Eskimo curlew | Kemp's ridley sea turtle | Whooping crane |
| Green sea turtle | Leatherback sea turtle | |

The habitats of these species are not areas that have the potential to be treated during Medfly control efforts. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff control); therefore, these species will not be affected by ground applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|-----------------------------|----------------------------------|------------------------|
| Ashy dogweed | Star cactus | Walker's manioc |
| Johnston's frankenia | Texas prairie dawn-flower | |

These plants occur in habitats that are not likely to be subject to ground malathion bait spray treatments. The likely insect pollinators will not be reduced in numbers by the localized application of malathion bait spray; therefore, these species will not be affected by ground applications of malathion bait spray.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Texas
Male Annihilation
Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|-----------------------------|---------------------------------|------------------------------|
| Brown pelican | Houston toad | Loggerhead sea turtle |
| Eskimo curlew | Interior least tern | Piping plover |
| Green sea turtle | Kemp's ridley sea turtle | Whooping crane |
| Hawksbill sea turtle | Leatherback sea turtle | |

The habitats of these species are not areas that have the potential to be treated during Medfly control efforts; therefore, these species will not be affected by male annihilation activities.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|----------------------------------|---------------------------------|----------------------------------|
| American peregrine falcon | Jaguarundi | Star cactus |
| Arctic peregrine falcon | Johnston's frankenia | Texas prairie dawn-flower |
| Ashy dogweed | Northern aplomado falcon | Walker's manioc |
| Bald eagle | Ocelot | |

These species occur in habitats that are not likely to be subject to Medfly control treatments. Any Medfly traps set in or adjacent to their habitats will not affect these species nor any component of their habitats; therefore, male annihilation will have no effect on these species.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Texas

Aerial and Mist Blower Malathion Bait Spray

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|----------------------|--------------------------|-----------------------|
| Brown pelican | Houston toad | Loggerhead sea turtle |
| Eskimo curlew | Interior least tern | Piping plover |
| Green sea turtle | Kemp's ridley sea turtle | Whooping crane |
| Hawksbill sea turtle | Leatherback sea turtle | |

The habitats of these species are not areas that have the potential to be treated during Medfly control efforts. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) labeling restrictions prohibit the application of malathion to water and aquatic habitats (this includes runoff and drift control); therefore, these species will not be affected by aerial or mist blower applications of malathion bait spray.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|-------------------------|------------|--------|
| Arctic peregrine falcon | Jaguarundi | Ocelot |
|-------------------------|------------|--------|

The normal habitats of these species are outside the areas that are likely to be treated with malathion bait spray. None of these vertebrates are dependent upon insect populations that may be directly depleted by drift of the malathion bait spray, nor are they likely to suffer from malathion intoxication.

| | |
|----------------------|-----------------|
| Ashy dogweed | Star cactus |
| Johnston's frankenia | Walker's manioc |

These plants are perennials that occur in habitats that are not likely to be subject to aerial or mist blower malathion bait spray treatments. However, they likely are pollinated by insects that may be reduced in numbers by off-target drift of the malathion bait spray. The reduction of pollinators and other beneficial insects in any year may result in fewer than normal progeny being produced during the lifespan of any of these plants.

To avoid affecting pollinators, APHIS, in conjunction with FWS, will determine the area where pollinators may be affected and will not conduct aerial or mist blower spraying of pesticides over any of these affected areas around plants during their blooming period. Additionally, no aerial or mist blower application of malathion bait spray will be conducted within an area that will be determined in consultation with FWS in the vicinity of Walker's manioc. Thus, these species will not be affected.

2., continued.

Texas prairie dawn-flower

This plant occurs outside habitats that are likely to be treated by aerial or mist blower applications of malathion bait spray. It is, though, an annual that likely is pollinated by insects that may be affected directly by off-target drift of the malathion bait spray, resulting in flowers not being pollinated and fewer than normal progeny being produced.

To avoid affecting pollinators, APHIS, in conjunction with FWS, will determine the area within which pollinators may be affected and will conduct no aerial or mist blower spraying of pesticides over any of these affected areas around plants during their blooming period. Thus, these species will not be affected.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)
4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

American peregrine falcon

Bald eagle

Northern aplomado falcon

Although a few insectivorous birds may be affected by ingestion of malathion-contaminated insects, the food base of these endangered birds will not be adversely affected because neither the insectivorous birds nor other birds that form part of the food base of these endangered birds will be affected. The aquatic foraging habitat of the bald eagle is protected by FIFRA restrictions governing the use of malathion. There is no evidence for potential secondary poisoning of birds from ingestion of contaminated prey, and these birds will not be exposed to sufficient malathion to cause primary intoxication. The presence of aircraft and attendant personnel associated with aerial spraying during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of these birds during their courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, these species will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Texas

Diazinon Soil Drench

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|----------------------------------|---------------------------------|---------------------------------|
| American peregrine falcon | Green sea turtle | Leatherback sea turtle |
| Arctic peregrine falcon | Hawksbill sea turtle | Loggerhead sea turtle |
| Bald eagle | Houston toad | Northern aplomado falcon |
| Brown pelican | Interior least tern | Piping plover |
| Eskimo curlew | Kemp's ridley sea turtle | Whooping crane |

These vertebrates are found within the counties where Medfly treatments may occur, but any off-target movement of diazinon soil drench will not reach their habitats nor affect any component of them. The use of diazinon soil drench will be restricted to within the drip line of infested host trees, and program personnel will be present during the entire application and watering-in periods. The Federal Insecticide, Fungicide, and Rodenticide Act labeling restrictions prohibit the application of diazinon to water and aquatic habitats (this includes runoff and drift control). These species will not be affected by localized use of diazinon soil drenches.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|-----------------------------|----------------------------------|------------------------|
| Ashy dogweed | Star cactus | Walker's manioc |
| Johnston's frankenia | Texas prairie dawn-flower | |

These plants occur in habitats that likely will not be subject to diazinon soil drench treatments. The likely insect pollinators will not be reduced in numbers by the localized application of diazinon; therefore, these species will not be affected by localized soil drenches under infested host trees.

| | |
|-------------------|---------------|
| Jaguarundi | Ocelot |
|-------------------|---------------|

These cats may be attracted to prey contaminated by eating diazinon-intoxicated invertebrates from under treated trees.

To avoid potential exposure of these cats to contaminated prey, diazinon soil drenches will not be used within an FWS-approved buffer zone adjacent to occupied cat habitat. Thus, these species will not be affected.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.
5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Texas

Sterile Insect Technique

Categories of Potential Impact

1. The habitats of these species occur outside the geographical area of the Medfly Cooperative Eradication Program and are outside the areas where spill-over effects (e.g., spray drift or contaminated runoff) reasonably can be expected; therefore, these species will not be affected by the program.

| | | |
|-----------------------------|---------------------------------|------------------------------|
| Brown pelican | Houston toad | Loggerhead sea turtle |
| Eskimo curlew | Interior least tern | Piping plover |
| Green sea turtle | Kemp's ridley sea turtle | Whooping crane |
| Hawksbill sea turtle | Leatherback sea turtle | |

The habitats of these species are not areas that have the potential to be treated during Medfly control efforts; therefore, these species will not be affected by sterile insect releases.

2. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

| | | |
|--------------------------------|-----------------------------|----------------------------------|
| Arctic peregrine falcon | Johnston's frankenia | Texas prairie dawn-flower |
| Ashy dogweed | Ocelot | Walker's manioc |
| Jaguarundi | Star cactus | |

These species occur in habitats that are not likely to be subject to sterile insect releases. Any sterile Medflies that reach their habitats will not affect these species or any component of their habitats.

3. These species occur within the potential area of the Medfly Cooperative Eradication Program, but their habitats are not subject to direct treatment. The species or their habitats may be exposed to off-target movement of control agents, and these species may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

4. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program; however, these species are not expected to be affected either directly or indirectly by such exposure because of their biology, natural history, or FWS-approved protective measures.

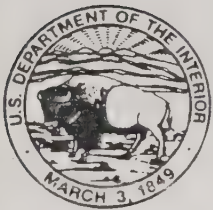
| | | |
|----------------------------------|-------------------|---------------------------------|
| American peregrine falcon | Bald eagle | Northern aplomado falcon |
|----------------------------------|-------------------|---------------------------------|

Although these species will not be affected by exposure to sterile insects, if aerial release of sterile Medflies is used, the presence of aircraft and attendant personnel associated with aerial releases during the nesting season may result in inadequate brooding, feeding of hatched young, or, in the most extreme case, nest abandonment.

APHIS will attempt to avoid aerial activity in the nesting and foraging habitats of these birds during their courtship, nesting, and fledging periods. If aerial activity becomes necessary, APHIS will not conduct such activity within FWS-approved no-aerial-activity zones. Thus, these species will not be affected.

5. These species and their habitats occur within the potential area of the Medfly Cooperative Eradication Program, and the species or their habitats may be affected either directly or indirectly by such exposure because of their biology or natural history. (Species in this group may be assigned to other groups, depending upon the protective measures implemented.)

Appendix A. Background Information



United States Department of the Interior

FISH AND WILDLIFE SERVICE

WASHINGTON, D.C. 20240



ADDRESS ONLY THE DIRECTOR
FISH AND WILDLIFE SERVICE

In Reply Refer To:
FWS/FWE/DES

AUG 18 1992

Mr. Harold T. Smith
Environmental Analysis and
Documentation
Animal and Plant Health Inspection
Service
U.S. Department of Agriculture
Hyattsville, Maryland 20782

Dear Mr. Smith:

In a letter dated February 26, 1992, you informed the U.S. Fish and Wildlife Service (Service) that your agency would be initiating consultation pursuant to section 7 of the Endangered Species Act on the proposed Medfly Eradication Program and requested that the Service designate a lead region and a central regional contact to coordinate the consultation. The Service responded on May 8, 1992, indicating that our Region 4 (Atlanta Regional Office) would be the lead region for that consultation.

The purpose of this correspondence is to inform you that the Service has designated Region 2 to replace Region 4 as the lead region for the upcoming medfly consultation. Mr. Gary Halvorson, Section 7 Coordinator for Region 2, will serve as the central contact person for the consultation. Mr. Halvorson can be reached at 505-766-2914. When initiating formal consultation, please address your request to Mr. John Rogers, Regional Director, Fish and Wildlife Service, P.O. Box 1306, Albuquerque, New Mexico 87103.

We appreciate your continuing efforts to protect and conserve endangered and threatened species.

Sincerely,

Larry R. Shannon
Chief, Division of Endangered Species

25 AUG 1992

Mr. John Rogers
Regional Director
Fish and Wildlife Service
P.O. Box 1306
Albuquerque, NM 87103

Dear Mr. Rogers:

The Animal and Plant Health Inspection Service (APHIS) recently received a letter (FWS/FWE/DES/) designating Mr. Gary Halvorson, Section 7 Coordinator for Region 2, as the central contact and designating you as the initial contact for formal Section 7 Endangered Species Act consultation for our proposed Medfly Cooperative Eradication Program. APHIS would like to initiate formal section 7 consultation at this time for the program.

APHIS expects to consult on endangered and threatened species for potential program areas that involve certain counties of Alabama, Arizona, California, Florida, Georgia, Louisiana, Mississippi, South Carolina, and Texas. We have enclosed our current compilation of federally listed or proposed endangered and threatened species, which incorporates revisions to our previous submittal of December 17, 1991, based on Fish and Wildlife Service responses as well as the addition of two extra counties for Arizona. Please confirm this current list of species; we will consider that you concur with it if we do not hear otherwise by September 30, 1992.

We have proposed a new approach to the biological assessment of endangered species which has been communicated to the Fish and Wildlife Service's Office of Endangered Species, Arlington, Virginia. This approach will provide a better organization of the content of the assessment and enable us to focus on species with increased probability of being affected by the program. Preparation of the biological assessment is underway and we anticipate completing the draft in about 45 days; we will contact you soon concerning its preparation.

Sincerely,

/s/ Harold T. Smith

Harold T. Smith
Environmental Analysis and Documentation
Biotechnology, Biologics,
and Environmental Protection

Enclosure

Appendix B. Endangered and Threatened Species

| State | County | Scientific name | Common name | Federal status |
|---------|----------|---|--|----------------|
| Alabama | Baldwin | <i>Acipenser oxyrhynchus desotoi</i> | Sturgeon, gulf | Threatened |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizii</i>) | Turtle, green sea | Threatened |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Endangered |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Peromyscus polionotus ammobates</i> | Mouse, Alabama beach | Endangered |
| | | <i>Peromyscus polionotus trissyllepsis</i> | Mouse, Perdido Key beach | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Pseudemys alabamensis</i> | Turtle, Alabama red-bellied | Endangered |
| | Mobile | <i>Acipenser oxyrhynchus desotoi</i> | Sturgeon, gulf | Threatened |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizii</i>) | Turtle, green sea | Threatened |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Endangered |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Gopherus polyphemus</i> | Tortoise, gopher | Threatened |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Pseudemys alabamensis</i> | Turtle, Alabama red-bellied | Endangered |
| Arizona | Cochise | <i>Canis lupus</i> | Wolf, gray | Endangered |
| | | <i>Coryphantha robbinsorum</i> | Cactus, Cochise pincushion | Threatened |
| | | <i>Cyprinella formosa</i> | Shiner, beautiful | Threatened |
| | | <i>Falco femoralis septentrionalis</i> | Falcon, northern aplomado | Endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Felis yagouaroundi tolteca</i> | Jaguarundi | Endangered |
| | | <i>Gila purpurea</i> | Chub, Yaqui | Endangered |
| | | <i>Grus americana</i> | Crane, whooping | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Ictalurus pricei</i> | Catfish, Yaqui | Threatened |
| | | <i>Leptonycteris curasoae yerbabuenae</i> | Bat, lesser long-nosed | Endangered |
| | | <i>Poeciliopsis occidentalis</i> | Topminnow, Gila (incl. Yaqui) | Endangered |
| | Maricopa | <i>Agave arizonica</i> | Agave, Arizona | Endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Leptonycteris curasoae yerbabuenae</i> | Bat, lesser long-nosed | Endangered |
| | | <i>Meda fulgida</i> | Spikedace | Threatened |
| | | <i>Poeciliopsis occidentalis</i> | Topminnow, Gila (incl. Yaqui) | Endangered |
| | | <i>Purchia subintegra</i> | Cliffrose, Arizona | Endangered |
| | | <i>Rallus longirostris yumenensis</i> | Rail, Yuma clapper | Endangered |
| | | <i>Tumamoca macdougalli</i> | Globe-berry, tumamoc | Endangered |
| | Pima | <i>Amsonia kearneyana</i> | Blue-star, Kearney's | Endangered |
| | | <i>Antilocapra americana peninsularis</i> | Pronghorn, Sonoran | Threatened |

continued

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|-----------------------|------------|---|-------------------------------|---------------------|
| Arizona— continued | | <i>Colinus virginianus ridgwayi</i> | Bobwhite, masked | Endangered |
| | | <i>Cyprinodon macularius</i> | Pupfish, desert | Endangered |
| | | <i>Echinocactus horizonthalonius</i> var. <i>nicholii</i> | Cactus, Nichol's Turk's head | Endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Gila ditaenia</i> | Chub, Sonoran | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Leptonycteris curasoae yerbabuenae</i> | Bat, lesser long-nosed | Endangered |
| | | <i>Poeciliopsis occidentalis</i> | Topminnow, Gila (incl. Yaqui) | Endangered |
| | | <i>Strix occidentalis lucida</i> | Owl, Mexican spotted | Proposed threatened |
| | | <i>Tumamoca macdougalli</i> | Globe-berry, tumamoc | Endangered |
| | Santa Cruz | <i>Canis lupus</i> | Wolf, gray | Endangered |
| | | <i>Falco femoralis septentrionalis</i> | Falcon, northern aplomado | Endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Felis yagouaroundi tolteca</i> | Jaguarundi | Endangered |
| | | <i>Gila ditaenia</i> | Chub, Sonoran | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Leptonycteris curasoae yerbabuenae</i> | Bat, lesser long-nosed | Endangered |
| | | <i>Meda fulgida</i> | Spikedace | Threatened |
| | | <i>Poeciliopsis occidentalis</i> | Topminnow, Gila (incl. Yaqui) | Endangered |
| | | <i>Echinocactus horizonthalonius</i> var. <i>nicholii</i> | Cactus, Nichol's Turk's head | Endangered |
| | Pinal | <i>Echinocereus troglodidatus</i> var. <i>arizonicus</i> | Cactus, Arizona hedgehog | Endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Leptonycteris curasoae yerbabuenae</i> | Bat, lesser long-nosed | Endangered |
| | | <i>Meda fulgida</i> | Spikedace | Threatened |
| | | <i>Poeciliopsis occidentalis</i> | Topminnow, Gila (incl. Yaqui) | Endangered |
| | | <i>Rallus longirostris yumenensis</i> | Rail, Yuma clapper | Endangered |
| | | <i>Tiaroga cobitis</i> | Minnow, loach | Threatened |
| | | <i>Tumamoca macdougalli</i> | Globe-berry, tumamoc | Endangered |
| | | <i>Antilocapra americana peninsularis</i> | Pronghorn, Sonoran | Threatened |
| | Yuma | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Leptonycteris curasoae yerbabuenae</i> | Bat, lesser long-nosed | Endangered |
| | | <i>Rallus longirostris yumenensis</i> | Rail, Yuma clapper | Endangered |
| California | Alameda | <i>Amsinckia grandiflora</i> | Fiddleneck, large-flowered | Endangered |
| | | <i>Branta canadensis leucopareia</i> | Goose, Aleutian Canada | Threatened |
| | | <i>Cordylanthus palmatus</i> | Bird's-beak, palmate-bracted | Endangered |
| | | <i>Euphydryas editha bayensis</i> | Butterfly, Bay checkerspot | Threatened |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Rallus longirostris obsoletus</i> | Rail, California clapper | Endangered |
| | | <i>Reithrodontomys raviventris</i> | Mouse, salt marsh harvest | Endangered |

continued

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|--------------------------|--------------|--|------------------------------------|------------------------|
| California— continued | | <i>Sterna antillarum</i> (= <i>albifrons</i>) <i>browni</i> | Tern, California least | Endangered |
| | | <i>Vulpes macrotis mutica</i> | Fox, San Joaquin kit | Endangered |
| | Contra Costa | <i>Apodemia mormo langei</i> | Butterfly, Lange's metalmark | Endangered |
| | | <i>Branta canadensis leucopareia</i> | Goose, Aleutian Canada | Threatened |
| | | <i>Erysimum capitatum</i> var. <i>angustatum</i> | Wallflower, Contra Costa | Endangered |
| | | <i>Euphydryas editha bayensis</i> | Butterfly, Bay checkerspot | Threatened |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Oenothera deltoides</i> ssp. <i>howellii</i> | Evening-primrose, Antioch Dunes | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, Brown | Endangered |
| | | <i>Rallus longirostris obsoletus</i> | Rail, California clapper | Endangered |
| | | <i>Reithrodontomys raviventris</i> | Mouse, salt marsh harvest | Endangered |
| | | <i>Sterna antillarum</i> (= <i>albifrons</i>) <i>browni</i> | Tern, California least | Endangered |
| | | <i>Vulpes macrotis mutica</i> | Fox, San Joaquin kit | Endangered |
| | Fresno | <i>Branta canadensis leucopareia</i> | Goose, Aleutian Canada | Endangered |
| | | <i>Caulanthus californicus</i> | Jewelflower, California | Endangered |
| | | <i>Cordylanthus palmatus</i> | Bird's-beak, palmate-bracted | Endangered |
| | | <i>Desmocerus californicus dimorphus</i> | Beetle, valley elderberry longhorn | Threatened |
| | | <i>Dipodomys ingens</i> | Rat, giant kangaroo | Endangered |
| | | <i>Dipodomys nitratoideis exilis</i> | Rat, Fresno kangaroo | Endangered |
| | | <i>Eriastrum hooveri</i> | Woolly-star, Hoover's | Threatened |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Gambelia silus</i> | Lizard, blunt-nosed leopard | Endangered |
| | | <i>Gymnogyps californianus</i> * | Condor, California | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lembertia congdonii</i> | Woolly-threads, San Joaquin | Endangered |
| | | <i>Onchorhynchus darki henshawi</i> | Trout, Lahontan cutthroat | Threatened |
| | | <i>Oncorhynchus aquabonita whitei</i> | Trout, Little Kern golden | Threatened |
| | | <i>Oncorhynchus clarki selenis</i> | Trout, Paiute cutthroat | Threatened |
| | | <i>Thamnophis gigas</i> | Giant garter snake | Proposed endangered |
| | | <i>Vulpes macrotis mutica</i> | Fox, San Joaquin kit | Endangered |
| | Imperial | <i>Branta canadensis leucopareia</i> | Goose, Aleutian Canada | Threatened |
| | | <i>Cyprinodon macularius</i> | Pupfish, desert | Endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Gila elegans</i> | Chub, Bonytail | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, California brown | Endangered |
| | | <i>Rallus longirostris yumenensis</i> | Rail, Yuma clapper | Endangered |
| | Kern | <i>Caulanthus californicus</i> | Jewelflower, California | Endangered |
| | | <i>Dipodomys ingens</i> | Rat, giant kangaroo | Endangered |
| | | <i>Dipodomys nitratoideis nitratoideis</i> | Rat, Tipton kangaroo | Endangered |
| | | <i>Eremalche kernensis</i> | Mallow, Kern | Endangered |
| | | <i>Eriastrum hooveri</i> | Woolly-star, Hoover's | Threatened |
| | | <i>Euprosepinus euterpe</i> | Moth, Kern primrose sphinx | Threatened |

* Species that are extirpated from the wild; reintroductions are either planned or in progress.

continue

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|--------------------------|-------------|--|--|------------------------|
| California— continued | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Gambelia silus</i> | Lizard, blunt-nosed leopard | Endangered |
| | | <i>Gymnogyps californianus</i> * | Condor, California | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lembertia congdonii</i> | Woolly-threads, San Joaquin | Endangered |
| | | <i>Listigopherus agassizii</i> | Tortoise, desert | Threatened |
| | | <i>Opuntia treleasei</i> | Cactus, Bakersfield | Endangered |
| | | <i>Vireo bellii pusillus</i> | Vireo, least Bell's | Endangered |
| | | <i>Vulpes macrotis mutica</i> | Fox, San Joaquin kit | Endangered |
| | Kings | <i>Caulanthus californicus</i> | Jewelflower, California | Endangered |
| | | <i>Dipodomys ingens</i> | Rat, Giant kangaroo | Endangered |
| | | <i>Dipodomys nitratoideus nitratoideus</i> | Rat, Tipton kangaroo | Endangered |
| | | <i>Eriastrum hooveri</i> | Woolly-star, Hoover's | Threatened |
| | | <i>Gambelia silus</i> | Lizard, blunt-nosed leopard | Endangered |
| | | <i>Lembertia congdonii</i> | Woolly-threads, San Joaquin | Endangered |
| | | <i>Vulpes macrotis mutica</i> | Fox, San Joaquin kit | Endangered |
| | Los Angeles | <i>Amphispiza belli dementeeae</i> | Sparrow, San Clemente Sage | Threatened |
| | | <i>Castilleja grisea</i> | Paintbrush, San Clemente Island Indian | Endangered |
| | | <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> | Bird's-beak, salt marsh | Endangered |
| | | <i>Delphinium kinkiense</i> | Larkspur, San Clemente Island | Endangered |
| | | <i>Euphilotes battoides allyni</i> | Butterfly, El Segundo blue | Endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Gasterosteus aculeatus williamsoni</i> | Stickleback, Unarmored threespine | Endangered |
| | | <i>Glaucopsyche lygdamus palosverdesensis</i> | Butterfly, Palos Verde blue | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lanius ludovicianus meamsi</i> | Shrike, San Clemente loggerhead | Endangered |
| | | <i>Lotus dendroideus</i> ssp. <i>traskiae</i> (= <i>L. scoparius</i> ssp. <i>t.</i>) | Broom, San Clemente Island | Endangered |
| | | <i>Malacothamnus clementinus</i> | Bush-mallow, San Clemente Island | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, Brown | Endangered |
| | | <i>Rallus longirostris levipes</i> | Rail, Light-footed clapper | Endangered |
| | | <i>Sterna antillarum</i> (= <i>albifrons</i>) <i>browni</i> | Tern, California least | Endangered |
| | | <i>Vireo bellii pusillus</i> | Vireo, Least Bell's | Endangered |
| | | <i>Xantusia</i> (= <i>Klauberina</i>) <i>riversiana</i> | Lizard, Island night | Threatened |
| | Orange | <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> | Bird's-beak, salt marsh | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, Brown | Endangered |
| | | <i>Rallus longirostris levipes</i> | Rail, Light-footed clapper | Endangered |
| | | <i>Sterna antillarum</i> (= <i>albifrons</i>) <i>browni</i> | Tern, California least | Endangered |
| | | <i>Vireo bellii pusillus</i> | Vireo, Least Bell's | Endangered |
| | Riverside | <i>Batrachoseps aridus</i> | Salamander, Desert slender | Endangered |
| | | <i>Dipodomys stephensi</i> (incl. <i>D. cascus</i>) | Rat, Stephens' kangaroo | Endangered |
| | | <i>Dodecahema leptoceras</i> | Spineflower, slender-horned | Endangered |
| | | <i>Eryngium aristulatum</i> var. <i>parishii</i> | Button-celery, San Diego | Proposed endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Orcuttia californica</i> | Grass, California Orcutt | Proposed endangered |

continued

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|--------------------------|----------------|--|--------------------------------------|------------------------|
| California— continued | | <i>Pelecanus occidentalis</i> | Pelican, Brown | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, California brown | Endangered |
| | | <i>Pogogyne nudiuscula</i> | Mint, Otey Mesa | Proposed endangered |
| | | <i>Rallus longirostris yumenensis</i> | Rail, Yuma clapper | Endangered |
| | | <i>Uma inornata</i> | Lizard, Coachella Valley fringe-toed | Threatened |
| | | <i>Vireo bellii pusillus</i> | Vireo, Least Bell's | Endangered |
| | Sacramento | <i>Branta canadensis leucopareia</i> | Goose, Aleutian Canada | Threatened |
| | | <i>Desmocerus californicus dimorphus</i> | Beetle, valley elderberry longhorn | Threatened |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Hypomesus transpacificus</i> | Smelt, delta | Proposed threatened |
| | | <i>Oenothera deltoides</i> ssp. <i>howellii</i> | Evening-primrose, Antioch Dunes | Endangered |
| | | <i>Thamnophis gigas</i> | Snake, giant garter | Proposed endangered |
| | | <i>Astragalus albens</i> | Cushenberry milkvetch | Proposed endangered |
| | | <i>Dodecahema leptoceras</i> | Spineflower, slender-horned | Endangered |
| | | <i>Eriastrum densifolium</i> ssp. <i>sanctorum</i> | Woolly-star, Santa Ana River | Endangered |
| | | <i>Erigeron parishii</i> | Parish's daisy | Proposed endangered |
| | San Bernardino | <i>Eriogonum ovalifolium</i> var. <i>vineum</i> | Cushenbury buckwheat | Proposed endangered |
| | | <i>Gila bicolor mohavensis</i> | Chub, Mohave tui | Endangered |
| | | <i>Gila elegans</i> | Chub, Bonytail | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lesquerella kingii</i> ssp. <i>bernardina</i> | San Bernadino Mountains bladderpod | Proposed endangered |
| | | <i>Microtus californicus scirpensis</i> | Vole, Amargosa | Endangered |
| | | <i>Oxytheca parishii</i> var. <i>goodmaniana</i> | Cushenberry oxytheca | Proposed endangered |
| | | <i>Rallus longirostris yumenensis</i> | Rail, Yuma clapper | Endangered |
| | | <i>Sidalcea pedata</i> | Checker-mallow, Pedate | Endangered |
| | | <i>Thelypodium stenopetalum</i> | Mustard, Slender-petaled | Endangered |
| | | <i>Vireo bellii pusillus</i> | Vireo, Least Bell's | Endangered |
| | San Diego | <i>Branta canadensis leucopareia</i> | Goose, Aleutian Canada | Threatened |
| | | <i>Chelonia mydas</i> (incl. <i>agassizii</i>) | Turtle, Green sea | Threatened |
| | | <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> | Bird's-beak, salt marsh | Endangered |
| | | <i>Dipodomys stephensi</i> (incl. <i>D. cascus</i>) | Rat, Stephens' kangaroo | Endangered |
| | | <i>Eryngium aristulatum</i> var. <i>parishii</i> | Button-celery, San Diego | Proposed endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys olivacea</i> | Turtle, (Pacific) olive Ridley sea | Threatened |
| | | <i>Orcuttia californica</i> | Grass, California Orcutt | Proposed endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, Brown | Endangered |
| | | <i>Pogogyne abramsii</i> | Mint, San Diego Mesa | Endangered |

continued

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|--------------------------|--------------------|--|------------------------------------|------------------------|
| California— continued | | <i>Pogogyne nudiusscula</i> | Mint, Otey Mesa | Proposed endangered |
| | | <i>Rallus longirostris levipes</i> | Rail, Light-footed clapper | Endangered |
| | | <i>Sterna antillarum</i> (= <i>albigrons</i>) <i>browni</i> | Tem, California least | Endangered |
| | | <i>Streptocephalus wootoni</i> | Shrimp, Riverside fairy | Proposed endangered |
| | | <i>Vireo bellii pusillus</i> | Vireo, Least Bell's | Endangered |
| | San Joaquin | <i>Amsinckia grandiflora</i> | Fiddleneck, large-flowered | Endangered |
| | | <i>Branta canadensis leucopareia</i> | Goose, Aleutian Canada | Threatened |
| | | <i>Cordylanthus palmatus</i> | Bird's-beak, palmate-bracted | Endangered |
| | | <i>Desmocerus californicus dimorphus</i> | Beetle, valley elderberry longhorn | Threatened |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Hypomesus transpacificus</i> | Smelt, delta | Proposed threatened |
| | | <i>Thamnophis gigas</i> | Snake, giant garter | Proposed endangered |
| | | <i>Vulpes macrotis mutica</i> | Fox, San Joaquin kit | Endangered |
| | San Luis Obispo | <i>Arctostaphylos morroensis</i> | Manzanita, Morro | Proposed endangered |
| | | <i>Branta canadensis leucopareia</i> | Goose, Aleutian Canada | Threatened |
| | | <i>Caulanthus californicus</i> | Jewelflower, California | Endangered |
| | | <i>Cirsium fontinale</i> var. <i>obispoense</i> | Bog thistle, Chorro Creek | Proposed endangered |
| | | <i>Clarkia speciosa</i> spp. <i>immaculata</i> | Clarkia, Pismo | Proposed endangered |
| | | <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> | Bird's-beak, salt marsh | Endangered |
| | | <i>Dipodomys heermanni morroensis</i> | Rat, Morro Bay kangaroo | Endangered |
| | | <i>Dipodomys ingens</i> | Rat, Giant kangaroo | Endangered |
| | | <i>Enhydra lutris nereis</i> | Otter, Southern sea | Threatened |
| | | <i>Eriastrum hooveri</i> | Woolly-star, Hoover's | Threatened |
| | | <i>Eriodictyon altissimum</i> | Mountainbalm, Indian Knob | Proposed endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Gambelia silus</i> | Lizard, blunt-nosed leopard | Endangered |
| | | <i>Gymnogyps californianus</i> * | Condor, California | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Helminthoglypta walkeriana</i> | Snail, Morro shoulderband | Proposed endangered |
| | | <i>Lembertia congdonii</i> | Wooly-threads, San Joaquin | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, Brown | Endangered |
| | | <i>Rallus longirostris obsoletus</i> | Rail, California clapper | Endangered |
| | | <i>Sterna antillarum</i> (= <i>albigrons</i>) <i>browni</i> | Tem, California least | Endangered |
| | | <i>Suaeda californica</i> | Sea-blite, California | Proposed endangered |
| | | <i>Vireo bellii pusillus</i> | Vireo, Least Bell's | Endangered |

* Species that are extirpated from the wild; reintroductions are either planned or in progress.

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|--------------------------|---------------|--|----------------------------------|------------------------|
| California— continued | San Mateo | <i>Vulpes macrotis mutica</i> | Fox, San Joaquin kit | Endangered |
| | | <i>Acanthomintha obovata</i> ssp. <i>duttonii</i> | Thommint, San Mateo | Endangered |
| | | <i>Callophrys mossii bayensis</i> | Butterfly, San Bruno elfin | Endangered |
| | | <i>Cupressus abramsiana</i> | Cypress, Santa Cruz | Endangered |
| | | <i>Euphydryas editha bayensis</i> | Butterfly, Bay checkerspot | Threatened |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Icarida icarioides missionensis</i> | Butterfly, Mission blue | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, Brown | Endangered |
| | | <i>Rallus longirostris obsoletus</i> | Rail, California clapper | Endangered |
| | | <i>Reithrodontomys raviventris</i> | Mouse, salt marsh harvest | Endangered |
| | | <i>Speyeria zerene myrtleae</i> | Butterfly, Myrtle's silverspot | Proposed endangered |
| | | <i>Sterna antillarum</i> (= <i>albifrons</i>) <i>browni</i> | Tem, California least | Endangered |
| | | <i>Thamnophis sirtalis tetrataenia</i> | Snake, San Francisco garter | Endangered |
| | Santa Barbara | <i>Arctocephalus townsendi</i> | Seal, Guadalupe fur | Threatened |
| | | <i>Branta canadensis leucopareia</i> | Goose, Aleutian Canada | Threatened |
| | | <i>Caulanthus californicus</i> | Jewelflower, California | Endangered |
| | | <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> | Bird's-beak, salt marsh | Endangered |
| | | <i>Dipodomys ingens</i> | Rat, Giant kangaroo | Endangered |
| | | <i>Dudleya traskiae</i> | Liveforever, Santa Barbara | Endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Falco peregrinus tundrius</i> | Falcon, Arctic peregrine | Threatened |
| | | <i>Gambelia silus</i> | Lizard, blunt-nosed leopard | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Layia camosa</i> | Layia, beach | Proposed endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, Brown | Endangered |
| | | <i>Rallus longirostris levipes</i> | Rail, Light-footed clapper | Endangered |
| | | <i>Sterna antillarum</i> (= <i>albifrons</i>) <i>browni</i> | Tem, California least | Endangered |
| | | <i>Vireo bellii pusillus</i> | Vireo, Least Bell's | Endangered |
| | | <i>Vulpes macrotis mutica</i> | Fox, San Joaquin kit | Endangered |
| | | <i>Xantusia</i> (= <i>Klauberina</i>) <i>riversiana</i> | Lizard, Island night | Threatened |
| | Santa Clara | <i>Euphydryas editha bayensis</i> | Butterfly, Bay checkerspot | Threatened |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, Brown | Endangered |
| | | <i>Rallus longirostris obsoletus</i> | Rail, California clapper | Endangered |
| | | <i>Reithrodontomys raviventris</i> | Mouse, salt marsh harvest | Endangered |
| | | <i>Sterna antillarum</i> (= <i>albifrons</i>) <i>browni</i> | Tem, California least | Endangered |
| | | <i>Vulpes macrotis mutica</i> | Fox, San Joaquin kit | Endangered |
| | Santa Cruz | <i>Ambystoma macrodactylum croceum</i> | Salamander, Santa Cruz long-toed | Endangered |
| | | <i>Chorizanthe pungens</i> var. <i>hartwegiana</i> | Ben Lomond spineflower | Proposed endangered |
| | | <i>Chorizanthe pungens</i> var. <i>pungens</i> | Monterey spineflower | Proposed endangered |
| | | <i>Chorizanthe robusta</i> var. <i>hartwegii</i> | Scotts Valley spineflower | Proposed endangered |
| | | | | |

continue

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|--------------------------|---------|--|---|------------------------|
| California— continued | | <i>Chorizanthe robusta</i> var. <i>robusta</i> | Robust spineflower | Proposed endangered |
| | | <i>Cupressus abramsiana</i> | Cypress, Santa Cruz | Endangered |
| | | <i>Enhydra lutris nereis</i> | Otter, Southern sea | Threatened |
| | | <i>Erysimum terretifolium</i> | Santa Cruz wallflower | Proposed endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, Brown | Endangered |
| | Tulare | <i>Caulanthus californicus</i> | Jewelflower, California | Endangered |
| | | <i>Dipodomys nitratoide nitratoide</i> | Rat, Tipton kangaroo | Endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Gambelia silus</i> | Lizard, blunt-nosed leopard | Endangered |
| | | <i>Gymnogyps californianus</i> * | Condor, California | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lembertia congdoni</i> | Wooly-threads, San Joaquin | Endangered |
| | | <i>Oncorhynchus aquabonita whitei</i> | Trout, Little Kern golden | Threatened |
| | | <i>Vulpes macrotis mutica</i> | Fox, San Joaquin kit | Endangered |
| | Ventura | <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> | Bird's-beak, salt marsh | Endangered |
| | | <i>Gambelia silus</i> | Lizard, blunt-nosed leopard | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, Brown | Endangered |
| | | <i>Rallus longirostris levipes</i> | Rail, Light-footed clapper | Endangered |
| | | <i>Sterna antillarum</i> (= <i>albifrons</i>) <i>browni</i> | Tem, California least | Endangered |
| | | <i>Vireo bellii pusillus</i> | Vireo, Least Bell's | Endangered |
| | | <i>Vulpes macrotis mutica</i> | Fox, San Joaquin kit | Endangered |
| | | <i>Xantusia</i> (= <i>Klauberina</i>) <i>riversiana</i> | Lizard, Island night | Threatened |
| Florida | Brevard | <i>Aphelocoma coerulescens</i> | Jay, Florida scrub | Threatened |
| | | <i>coerulescens</i> | | |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizii</i>) | Turtle, green sea | Threatened |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Threatened |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Eretmochelys imbricata</i> | Turtle, hawksbill sea (= <i>carey</i>) | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Nerodia fasciata taeniata</i> | Snake, Atlantic salt marsh | Threatened |
| | | <i>Peromyscus polionotus niveiventris</i> | Mouse, southeastern beach | Threatened |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| | Broward | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Chelonia mydas</i> (incl. <i>agassizii</i>) | Turtle, green sea | Threatened |
| | | <i>Crocodylus acutus</i> | Crocodile, American | Endangered |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Threatened |

* Species that are extirpated from the wild; reintroductions are either planned or in progress.

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|-----------------------|--------------|---|--|----------------|
| Florida— continued | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Eretmochelys imbricata</i> | Turtle, hawksbill sea (= carey) | Endangered |
| | | <i>Felis concolor coryi</i> | Panther, Florida | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Rosthrhamus sociabilis</i> | Kite, Everglade snail | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| | Dade | <i>Ammodramus maritimus mirabilis</i> | Sparrow, Cape Sable seaside | Endangered |
| | | <i>Amorpha crenulata</i> | Lead-plant, crenulate | Endangered |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Chamaesyce deltoidea</i> ssp. <i>deltoidea</i> | Spurge | Endangered |
| | | <i>Chamaesyce garberi</i> | No common name | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizi</i>) | Turtle, green sea | Threatened |
| | | <i>Crocodylus acutus</i> | Crocodile, American | Endangered |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Threatened |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Eretmochelys imbricata</i> | Turtle, hawksbill sea (= carey) | Endangered |
| | | <i>Felis concolor coryi</i> | Panther, Florida | Endangered |
| | | <i>Galactia smallii</i> | Milk-pea, Small's | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Heradides aristodemus ponceanus</i> | Butterfly, Schaus swallowtail | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Polygala smallii</i> | Polygala, tiny | Endangered |
| | | <i>Rosthrhamus sociabilis</i> | Kite, Everglade snail | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| | Hillsborough | <i>Aphelocoma coerulescens</i> | Jay, Florida scrub | Threatened |
| | | <i>coerulescens</i> | | |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizi</i>) | Turtle, green sea | Threatened |
| | | <i>Chrysopsis floridana</i> | Aster, Florida golden | Endangered |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | Indian River | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| | | <i>Aphelocoma coerulescens</i> | Jay, Florida scrub | Threatened |
| | | <i>coerulescens</i> | | |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Chelonia mydas</i> (incl. <i>agassizi</i>) | Turtle, green sea | Threatened |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Threatened |
| | | <i>Dicerandra immaculata</i> | Mint, Lakela's | Endangered |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |

continued

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|-----------------------|--------|---|--|----------------|
| Florida— continued | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Nerodia fasciata taeniata</i> | Snake, Atlantic salt marsh | Threatened |
| | | <i>Peromyscus polionotus niveiventris</i> | Mouse, southeastern beach | Threatened |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Polyborus plancus audubonii</i> | Caracara, Audubon's crested | Threatened |
| | | <i>Rosthrhamus sociabilis</i> | Kite, Everglade snall | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| | Lee | <i>Aphelocoma coerulescens</i> | Jay, Florida scrub | Threatened |
| | | <i>coerulescens</i> | | |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizi</i>) | Turtle, green sea | Threatened |
| | | <i>Deeringothamnus pulchellus</i> | Pawpaw, beautiful | Endangered |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Threatened |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| | Monroe | <i>Ammodramus maritimus mirabilis</i> | Sparrow, Cape Sable seaside | Endangered |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Cereus robinii</i> | Tree-cactus, Key | Endangered |
| | | <i>Chamaesyce garberi</i> | No common name | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizi</i>) | Turtle, green sea | Threatened |
| | | <i>Crocodylus acutus</i> | Crocodile, American | Endangered |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Threatened |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Eretmochelys imbricata</i> | Turtle, hawksbill sea (= carey) | Endangered |
| | | <i>Felis concolor coryi</i> | Panther, Florida | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Heradides aristodemus ponceanus</i> | Butterfly, Schaus swallowtail | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Neotoma floridana smalli</i> | Woodrat, Key Largo | Endangered |
| | | <i>Odocoileus virginianus davium</i> | Deer, Key | Endangered |
| | | <i>Orthalicus reses</i> (not incl. <i>nesodryas</i>) | Snail, Stock Island | Threatened |
| | | <i>Oryzomys palustris natator</i> | Rat, rice | Endangered |
| | | <i>Peromyscus gossypinus allapaticola</i> | Mouse, Key Largo cotton | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Sterna dougallii dougallii</i> | Tem, roseate | Endangered |
| | | <i>Sylvilagus palustris hefneri</i> | Rabbit, Lower Keys | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| | Orange | <i>Aphelocoma coerulescens</i> | Jay, Florida scrub | Threatened |
| | | <i>coerulescens</i> | | |
| | | <i>Bonamia grandiflora</i> | Bonamia, Florida | Threatened |

continued

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|-----------------------|------------|--|---|------------------------|
| Florida— continued | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lupinus aridorum</i> | Lupine, scrub | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Neoseps reynoldsi</i> | Skink, sand | Threatened |
| | | <i>Paronychia chartaceae</i> | Willow-wort, papery | Threatened |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | Palm Beach | <i>Aphelocoma coerulescens</i> | Jay, Florida scrub | Threatened |
| | | <i>coerulescens</i> | | |
| | | <i>Asimina tetramera</i> | Pawpaw, four-petal | Endangered |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizi</i>) | Turtle, green sea | Threatened |
| | | <i>Cucurbita okeechobeensis</i> | Okeechobee gourd | Proposed endangered |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Threatened |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Eretmochelys imbricata</i> | Turtle, hawksbill sea (= <i>carey</i>) | Endangered |
| | | <i>Felis concolor coryi</i> | Panther, Florida | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Rosthrhamus sociabilis</i> | Kite, Everglade snail | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| | Pinellas | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizi</i>) | Turtle, green sea | Threatened |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| | Seminole | <i>Aphelocoma coerulescens</i> | Jay, Florida scrub | Threatened |
| | | <i>coerulescens</i> | | |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| | St. Lucie | <i>Aphelocoma coerulescens</i> | Jay, Florida scrub | Threatened |
| | | <i>coerulescens</i> | | |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Cereus eriophorus</i> var. <i>fragrans</i> | Prickly-apple, fragrant | Endangered |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizi</i>) | Turtle, green sea | Threatened |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Threatened |
| | | <i>Dicerandra immaculata</i> | Mint, Lakela's | Endangered |

continued

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|-----------------------|-------------|---|--|----------------|
| Florida— continued | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Eretmochelys imbricata</i> | Turtle, hawksbill sea (= carey) | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Peromyscus polionotus niveiventris</i> | Mouse, southeastern beach | Threatened |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Rosthrhamus sociabilis</i> | Kite, Everglade snail | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| Georgia | Chatham | <i>Acipenser brevirostrum</i> | Sturgeon, shortnose | Endangered |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizii</i>) | Turtle, green sea | Threatened |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Endangered |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Trichechus manatus</i> | Manatee, West Indian | Endangered |
| Louisiana | Jefferson | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizii</i>) | Turtle, green sea | Threatened |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback sea | Endangered |
| | | <i>Falco peregrinus tundrius</i> | Falcon, Arctic peregrine | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, brown | Endangered |
| | | <i>Scaphirhynchus albus</i> | Sturgeon, pallid | Endangered |
| | Lafourche | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Chelonia mydas</i> (incl. <i>agassizii</i>) | Turtle, green sea | Threatened |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback | Endangered |
| | | <i>Falco peregrinus tundrius</i> | Falcon, Arctic peregrine | Threatened |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, brown | Endangered |
| | Plaquemines | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizii</i>) | Turtle, green sea | Threatened |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback | Endangered |
| | | <i>Falco peregrinus tundrius</i> | Falcon, Arctic peregrine | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, brown | Endangered |
| | | <i>Scaphirhynchus albus</i> | Sturgeon, pallid | Endangered |

continued

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|-------------------------|-------------|--|--|----------------|
| Louisiana— continued | St. Bernard | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizi</i>) | Turtle, green sea | Threatened |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback | Endangered |
| | | <i>Falco peregrinus tundrius</i> | Falcon, Arctic peregrine | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, brown | Endangered |
| | | <i>Scaphirhynchus albus</i> | Sturgeon, pallid | Endangered |
| | St. Charles | <i>Falco peregrinus tundrius</i> | Falcon, Arctic peregrine | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Scaphirhynchus albus</i> | Sturgeon, pallid | Endangered |
| Mississippi | Harrison | <i>Acipenser oxyrinchus desotoi</i> | Sturgeon, gulf | Threatened |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizi</i>) | Turtle, green sea | Threatened |
| | | <i>Dermochelys coriacea</i> | Turtle, leatherback | Endangered |
| | | <i>Drymarchon corais couperi</i> | Snake, eastern indigo | Threatened |
| | | <i>Gopherus polyphemus</i> | Tortoise, gopher | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, brown | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Ursus americanus luteolus</i> | Bear, Louisiana black | Threatened |
| South Carolina | Beaufort | <i>Acipenser brevirostrum</i> | Sturgeon, shortnose | Endangered |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lindera melissifolia</i> | Pondberry | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Oxypolis canbyi</i> | Dropwort, Canby's | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | Charleston | <i>Acipenser brevirostrum</i> | Sturgeon, shortnose | Endangered |
| | | <i>Canis rufus</i> | Wolf, red | Endangered |
| | | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lindera melissifolia</i> | Pondberry | Endangered |
| | | <i>Mycteria americana</i> | Stork, wood | Endangered |
| | | <i>Oxypolis canbyi</i> | Dropwort, Canby's | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | | <i>Vermivora bachmanii</i> | Warbler (wood), Bachman's | Endangered |

Appendix B. Endangered and Threatened Species—continued

| State | County | Scientific name | Common name | Federal status |
|-------|---------|---|--|----------------|
| Texas | Cameron | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizii</i>) | Turtle, green sea | Threatened |
| | | <i>Eretmochelys imbricata</i> | Turtle, hawksbill sea (= carey) | Endangered |
| | | <i>Falco femoralis septentrionalis</i> | Falcon, northern aplomado | Endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Falco peregrinus tundrius</i> | Falcon, Arctic peregrine | Threatened |
| | | <i>Felis paradalis</i> | Ocelot | Endangered |
| | | <i>Felis yagouaroundi cacomitli</i> | Jaguarundi | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, brown | Endangered |
| | Harris | <i>Bufo houstonensis</i> | Toad, Houston | Endangered |
| | | <i>Falco peregrinus tundrius</i> | Falcon, Arctic peregrine | Threatened |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Hymenoxys texana</i> | Dawn-flower, Texas prairie | Endangered |
| | | <i>Picoides borealis</i> | Woodpecker, red-cockaded | Endangered |
| | Hidalgo | <i>Falco femoralis septentrionalis</i> | Falcon, northern aplomado | Endangered |
| | | <i>Felis paradalis</i> | Ocelot | Endangered |
| | | <i>Felis yagouaroundi cacomitli</i> | Jaguarundi | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Manihot walkeri</i> | Manioc, Walker's | Endangered |
| | Starr | <i>Felis paradalis</i> | Ocelot | Endangered |
| | | <i>Felis yagouaroundi cacomitli</i> | Jaguarundi | Endangered |
| | | <i>Frankenia johnstonii</i> | Frankenia, Johnston's | Endangered |
| | | <i>Sterna antillarum</i> | Tem, interior least | Endangered |
| | | <i>Thymophylla tephroleuca</i> | Dogweed, ashy | Endangered |
| | Willacy | <i>Caretta caretta</i> | Turtle, loggerhead sea | Threatened |
| | | <i>Charadrius melodus</i> | Plover, piping | Endangered |
| | | <i>Chelonia mydas</i> (incl. <i>agassizii</i>) | Turtle, green sea | Threatened |
| | | <i>Eretmochelys imbricata</i> | Turtle, hawksbill sea (= carey) | Endangered |
| | | <i>Falco femoralis septentrionalis</i> | Falcon, northern aplomado | Endangered |
| | | <i>Falco peregrinus anatum</i> | Falcon, American peregrine | Endangered |
| | | <i>Falco peregrinus tundrius</i> | Falcon, Arctic peregrine | Threatened |
| | | <i>Felis paradalis</i> | Ocelot | Endangered |
| | | <i>Felis yagouaroundi cacomitli</i> | Jaguarundi | Endangered |
| | | <i>Haliaeetus leucocephalus</i> | Eagle, bald | Endangered |
| | | <i>Lepidochelys kempii</i> | Turtle, Kemp's (= Atlantic) ridley sea | Endangered |
| | | <i>Numenius borealis</i> | Curlew, Eskimo | Endangered |
| | | <i>Pelecanus occidentalis</i> | Pelican, brown | Endangered |



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Post Office Box 1306
Albuquerque, N.M. 87103

TAKE
PRIDE IN
AMERICA

In Reply Refer To:
R2/FWE-SE

NOV 16 1992

2-01-92-I-01

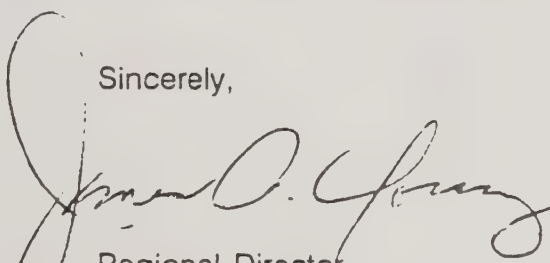
Harold T. Smith, Branch Chief
Environmental Analysis and Documentation
Biotechnology, Biologics, and Environmental Protection
Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

Dear Mr. Smith:

This responds to your August 25, 1992 request for a list of listed and proposed endangered and threatened species within the area of your proposed Medfly Cooperative Eradication Program. We acknowledge this list was due according to Federal regulations within 30-days' receipt of your request which we received on August 31, 1992. The intra-agency coordination we are involved with, which includes 16 different offices, prevented us from meeting the 30-day target. This was discussed with Warren Eastland of your staff. The attached list of listed and proposed endangered and threatened species is current to November 1992.

Please contact Jamie Rappaport Clark or Gary Halvorson at (505) 766-3972 if you have any questions about this information.

Sincerely,


Acting Regional Director

Enclosure

StateAlabamaBaldwin County

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Certainty of Occurrence</u> | <u>Status*</u> |
|----------------------------|---|--------------------------------|----------------|
| Alabama beach mouse | <u>Peromyscus polionotus ammobates</u> | Known | E, CH |
| Perdido Key beach mouse | <u>Peromyscus ploionotus trissylepsis</u> | Known | E, CH |
| Red-cockaded woodpecker | <u>Picoides borealis</u> | Known | E |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Alabama red-bellied turtle | <u>Pseudemys alabamensis</u> | Known | E |
| Gulf sturgeon | <u>Acipenser oxyrhynchus desotoi</u> | Known | T |
| Green sea turtle | <u>Chelonia mydas</u> | Possible | T |
| Kemp's ridley sea turtle | <u>Lepidochelys kemp</u> | Known | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Wood stork | <u>Mycteria americana</u> | Known | E |

Mobile County

| | | | |
|----------------------------|--------------------------------------|----------|---|
| Gopher tortoise | <u>Gopherus polyphemus</u> | Known | T |
| Alabama red-bellied turtle | <u>Pseudemys alabamensis</u> | Known | E |
| Gulf sturgeon | <u>Acipenser oxyrhynchus desotoi</u> | Known | T |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Green sea turtle | <u>Chelonia mydas</u> | Possible | T |
| Kemp's ridley sea turtle | <u>Lepidochelys kemp</u> | Known | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |

State

Arizona

Cochise County

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Certainty of Occurrence</u> | <u>Status</u> |
|-------------------------------------|---|--------------------------------|---------------|
| Yaqui chub | <u>Gila purpurea</u> | Known | E, CH |
| Desert pupfish | <u>Cyprinodon macularius</u> | Known | E, CH |
| Gila topminnow | <u>Poeciliopsis occidentalis occidentalis</u> | Known | E |
| Whooping crane | <u>Grus americana</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Northern aplomado falcon | <u>Falco femoralis septentrionalis</u> | Possible | E |
| Lesser long-nosed bat | <u>Leptonycteris curasoae verbabuenae</u> | Known | E |
| Yaqui catfish | <u>Ictalurus pricei</u> | Known | T, CH |
| Beautiful shiner | <u>Cyprinella formosa</u> | Known | T, CH |
| New Mexican ridge-nosed rattlesnake | <u>Crotalus willardi obscurus</u> | Possible | T |
| Cochise pincushion cactus | <u>Coryphantha robbinsorum</u> | Known | T |
| Mexican spotted owl | <u>Strix occidentalis lucida</u> | Known | PE |

Maricopa County

| | | | |
|---------------------------|---|-------|-------|
| Desert pupfish | <u>Cyprinodon macularius</u> | Known | E, CH |
| Gila topminnow | <u>Poeciliopsis occidentalis occidentalis</u> | Known | E |
| Yuma clapper rail | <u>Rallus longirostris yumanensis</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Sonoran pronghorn | <u>Antilocapra americana sonoriensis</u> | Known | E |
| Lesser long-nosed bat | <u>Leptonycteris curasoae verbabuenae</u> | Known | E |
| Arizona hedgehog cactus | <u>Echinocereus triglochidiatus var. arizonicus</u> | Known | E |
| Tumamoc globeberry | <u>Tumamoca macdougalii</u> | Known | E |
| Arizona agave | <u>Agave arizonica</u> | Known | E |
| Arizona cliffrose | <u>Purshia subintegra</u> | Known | E |
| Mexican spotted owl | <u>Strix occidentalis lucida</u> | Known | PE |

Pima County

| | | | |
|---------------------------|---|-------|-------|
| Desert pupfish | <u>Cyprinodon macularius</u> | Known | E, CH |
| Gila topminnow | <u>Poeciliopsis occidentalis occidentalis</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Masked bobwhite | <u>Colinus virginianus ridgwayi</u> | Known | E |

| | | | |
|----------------------------|--|-------|----|
| Sonoran pronghorn | <u>Antilocapra americana sonoriensis</u> | Known | E |
| Lesser long-nosed bat | <u>Leptonycteris curasoae verbabuenae</u> | Known | E |
| Kearney's blue-star | <u>Amsonia kearneyana</u> | Known | E |
| Nichol's Turks head cactus | <u>Echinocactus horizonthalonius var. nicholii</u> | Known | E |
| Tumamoc globeberry | <u>Tumamoca macdougalii</u> | Known | E |
| Mexican spotted owl | <u>Strix occidentalis lucida</u> | Known | PE |
| Pima pineapple cactus | <u>Coryphantha scheeri robustispina</u> | Known | PE |

Pinal County

| | | | |
|----------------------------|---|-------|-------|
| Desert pupfish | <u>Cyprinodon macularius</u> | Known | E, CH |
| Gila topminnow | <u>Poeciliopsis occidentalis occidentalis</u> | Known | E |
| Yuma clapper rail | <u>Rallus longirostris yumanensis</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Lesser long-nosed bat | <u>Leptonycteris curasoae verbabuenae</u> | Known | E |
| Arizona hedgehog cactus | <u>Echinocereus triglochidiatus var. arizonicus</u> | Known | E |
| Nichol's Turks head cactus | <u>Echinocactus horizonthalonius var. nicholii</u> | Known | E |
| Tumamoc globeberry | <u>Tumamoca macdougalii</u> | Known | E |
| Loach minnow | <u>Tiaroga cobitis</u> | Known | T |
| Spikedace | <u>Meda fulgida</u> | Known | T |

Santa Cruz County

| | | | |
|---------------------------|---|----------|-------|
| Desert pupfish | <u>Cyprinodon macularius</u> | Known | E, CH |
| Gila topminnow | <u>Poeciliopsis occidentalis occidentalis</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Northern aplomado falcon | <u>Falco femoralis septentrionalis</u> | Possible | E |
| Lesser long-nosed bat | <u>Leptonycteris curasoae verbabuenae</u> | Known | E |
| Sonora chub | <u>Gila ditaenia</u> | Known | T, CH |
| Mexican spotted owl | <u>Strix occidentalis lucida</u> | Known | PE |
| Pima pineapple cactus | <u>Coryphantha scheeri robustispina</u> | Known | PE |

Yuma County

| | | | |
|---------------------------|---|-------|---|
| Razorback sucker | <u>Xyrauchen texanus</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Brown pelican | <u>Pelecanus occidentalis</u> | Known | E |
| Yuma clapper rail | <u>Rallus longirostris yumanensis</u> | Known | E |
| Sonoran pronghorn | <u>Antilocapra americana sonoriensis</u> | Known | E |
| Lesser long-nosed bat | <u>Leptonycteris curasoae verbabuenae</u> | Known | E |

State

California

Alameda County

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Certainty of Occurrence</u> | <u>Status</u> |
|-----------------------------|--|--------------------------------|---------------|
| Winter-run chinook salmon | <u>Oncorhynchus tshawytscha</u> | Known | T |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| California clapper rail | <u>Rallus longirostris obsoletus</u> | Known | E |
| California least tern | <u>Sterna antillarum (=Albifrons) browni</u> | Known | E |
| Aleutian Canada goose | <u>Branta canadensis leucopareia</u> | Known | T |
| Salt marsh harvest mouse | <u>Reithrodontomys raviventris</u> | Known | E |
| San Joaquin kit fox | <u>Vulpes macrotis mutica</u> | Known | E |
| Bay checkerspot butterfly | <u>Euphydryas editha bayensis</u> | Known | T |
| Longhorn fairy shrimp | <u>Branchinecta longiantenna</u> | Known | P |
| Vernal pool fairy shrimp | <u>Branchinecta lynchi</u> | Known | P |
| California linderiella | <u>Linderiella occidentalis</u> | Known | P |
| Large-flowered fiddleneck | <u>Amsinckia grandiflora</u> | Known | E |
| Palmate-bracted bird's beak | <u>Cordylanthus palmatus</u> | Known | E |

Contra Costa County

| | | | |
|--------------------------------|--|-------|-------|
| Winter-run chinook salmon | <u>Oncorhynchus tshawytscha</u> | Known | T |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| California clapper rail | <u>Rallus longirostris obsoletus</u> | Known | E |
| California least tern | <u>Sterna antillarum (=albifrons) browni</u> | Known | E |
| Aleutian Canada goose | <u>Branta canadensis leucopareia</u> | Known | T |
| Salt marsh harvest mouse | <u>Reithrodontomys raviventris</u> | Known | E |
| San Joaquin kit fox | <u>Vulpes macrotis mutica</u> | Known | E |
| Lange's metalmark butterfly | <u>Apodemia mormo langei</u> | Known | E |
| Bay checkerspot butterfly | <u>Euphydryas editha bayensis</u> | Known | T |
| Longhorn fairy shrimp | <u>Branchinecta longiantenna</u> | Known | P |
| Vernal pool fairy shrimp | <u>Branchinecta lynchi</u> | Known | P |
| California linderiella | <u>Linderiella occidentalis</u> | Known | P |
| Contra Costa wallflower | <u>Erysimum capitatum var. angustatum</u> | Known | E, CH |
| Antioch Dunes evening-primrose | <u>Oenothera deltoides howellii</u> | Known | E, CH |

Fresno County

| | | | |
|-----------------------------------|--|-------|-------|
| Lahontan cutthroat trout | <u>Oncorhynchus clarki henshawi</u> | Known | T |
| Paiute cutthroat trout | <u>Oncorhynchus clarki seleniris</u> | Known | T |
| Blunt-nosed leopard lizard | <u>Gambelia (=Crotaphytus) silus</u> | Known | E |
| Giant garter snake | <u>Thamnophis gigas</u> | Known | P |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| California condor | <u>Gymnogyps californianus</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Aleutian Canada goose | <u>Branta canadensis leucopareia</u> | Known | T |
| Giant kangaroo rat | <u>Dipodomys ingens</u> | Known | E |
| Fresno kangaroo rat | <u>Dipodomys nitratoideis exilis</u> | Known | E, CH |
| San Joaquin kit fox | <u>Vulpes macrotis mutica</u> | Known | E |
| Valley elderberry longhorn beetle | <u>Desmocerus californicus dimorphus</u> | Known | T |
| California jewelflower | <u>Caulanthus californicus</u> | Known | E |
| Palmate-bracted bird's-beak | <u>Cordylanthus palmatus</u> | Known | E |
| San Joaquin woolly-threads | <u>Lembertia congdonii</u> | Known | E |
| Hoover's woolly-star | <u>Eriastrum hooveri</u> | Known | T |

Imperial County

| | | | |
|---------------------------|--|----------|-------|
| Desert pupfish | <u>Cyprinodon macularius</u> | Known | E, CH |
| Colorado squawfish | <u>Ptychocheilus lucius</u> | Possible | E |
| Razorback sucker | <u>Xyrauchen texanus</u> | Known | E |
| Desert tortoise | <u>Gopherus (=Xerobates) agassizii</u> | Known | T |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| Yuma clapper rail | <u>Rallus longirostris yumanensis</u> | Known | E |
| Aleutian Canada goose | <u>Branta canadensis leucopareia</u> | Known | T |
| California least tern | <u>Sterna antillarum (=albifrons) browni</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |

Kern County

| | | | |
|----------------------------|--|----------|-------|
| Blunt-nosed leopard lizard | <u>Gambelia (=Crotaphytus) silus</u> | Known | E |
| Desert tortoise | <u>Gopherus (=Xerobates) agassizii</u> | Known | T |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| California condor | <u>Gymnogyps californianus</u> | Possible | E, CH |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Least Bell's vireo | <u>Vireo bellii pusillus</u> | Known | E |
| Giant kangaroo rat | <u>Dipodomys ingens</u> | Known | E |
| Tipton kangaroo rat | <u>Dipodomys nitratoideis nitratoideis</u> | Known | E |
| San Joaquin kit fox | <u>Vulpes macrotis mutica</u> | Known | E |
| Kern primrose sphinx moth | <u>Euproserpinus euterpe</u> | Known | T |
| California jewelflower | <u>Caulanthus californicus</u> | Known | E |

| | | | |
|---------------------------|----------------------------|-------|---|
| Kern mallow | <u>Eremalche kernensis</u> | Known | E |
| San Joaquin wooly-threads | <u>Lembertia congdonii</u> | Known | E |
| Bakersfield cactus | <u>Opuntia treleasei</u> | Known | E |
| Hoover's wooly-star | <u>Eriastrum hooveri</u> | Known | T |

Kings County

| | | | |
|----------------------------|--|-------|---|
| Blunt-nosed leopard lizard | <u>Gambelia (=Crotaphytus) silus</u> | Known | E |
| Giant kangaroo rat | <u>Dipodomys ingens</u> | Known | E |
| Tipton kangaroo rat | <u>Dipodomys nitratoideus nitratoideus</u> | Known | E |
| San Joaquin kit fox | <u>Vulpes macrotis mutica</u> | Known | E |
| California jewelflower | <u>Caulanthus californicus</u> | Known | E |
| San Joaquin wooly-threads | <u>Lembertia congdonii</u> | Known | E |
| Hoover's wooly-star | <u>Eriastrum hooveri</u> | Known | T |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |

Los Angeles County

| | | | |
|---|---|----------|--------|
| Unarmored threespine stickleback | <u>Gasterosteus aculeatus williamsoni</u> | Known | E |
| Mohave tui chub | <u>Gila bicolor mohavensis</u> | Known | E |
| Desert tortoise | <u>Gopherus (=Xerobates) agassizii</u> | Known | T |
| Island night lizard | <u>Xantusia (=Klauberina) riversianaves</u> | Known | T |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E, CH |
| California condor | <u>Gymnogyps californianus</u> | Possible | E |
| San Clemente loggerhead shrike | <u>Lanius ludovicianus mearnsi</u> | Known | E |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| Light-footed clapper rail | <u>Rallus longirostris levipes</u> | Known | E |
| California least tern | <u>Sterna antillarum (=Albifrons) browni</u> | Known | E |
| Least Bell's vireo | <u>Vireo bellii pusillus</u> | Known | E, PCH |
| San Clemente sage sparrow | <u>Amphispiza belli clementeae</u> | Known | T |
| Western snowy plover (coastal population) | <u>Charadrius alexandrinus nivosus</u> | Known | P |
| Coastal California gnatcatcher | <u>Poliioptila californica californica</u> | Known | P |
| Marbled murrelet | <u>Brachyramphus marmoratus</u> | Possible | T |
| San Joaquin kit fox | <u>Vulpes macrotis mutica</u> | Known | E |
| Blunt-nosed Leopard lizard | <u>Gambelia (=crdtaphytus) silus</u> | Known | E |
| El Segundo blue butterfly | <u>Euphilotes (=Shijimiaeoides) battoides allyn</u> | Known | E |
| Palos Verdes blue butterfly | <u>Glaucopsyche lygdamus palosverdesensis</u> | Known | E, CH |
| San Clemente Island Indian paintbrush | <u>Castilleja grisea</u> | Known | E |
| Salt marsh bird's-beak | <u>Cordylanthus maritimus subsp. maritimus</u> | Known | E |
| San Clemente Island larkspur | <u>Delphinium kinkiense</u> | Known | E |

| | | | |
|------------------------------------|--|-------|---|
| Slender-horned spineflower | <u>Dodecagahama (=Centrostegia) leptoceras</u> | Known | E |
| San Clemente Island broom | <u>Lotus dendroideus subsp. traskiae</u> | Known | E |
| San Clemente Island bush-mallow | <u>Malacothamnus clementinus</u> | Known | E |
| Swamp sandwort | <u>Arenaria paludicola</u> | Known | P |
| Gambel's watercress | <u>Rorippa gambellii</u> | Known | P |

Orange County

| | | | |
|--|--|----------|---|
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Coastal California gnatcatcher | <u>Polioptila californica californica</u> | Known | P |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| Light-footed clapper rail | <u>Rallus longirostris levipes</u> | Known | E |
| California least tern | <u>Sterna antillarum (=albifrons) browni</u> | Known | E |
| Least Bell's vireo | <u>Vireo bellii pusillus</u> | Known | E |
| Western snowy plover (coastal population) | <u>Charadrius alexandrinus nivosus</u> | Known | P |
| Marbled murrelet | <u>Brachyramphus marmoratus</u> | Possible | T |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |
| Salt marsh bird's-beak | <u>Cordylanthus maritimus subsp. maritimus</u> | Known | E |
| Santa Ana River wooly-star | <u>Eriastrum densifolium subsp. sanctorum</u> | Known | E |
| Gambel's bitter-cress | <u>Rorippa gambellii</u> | Known | P |

Riverside County

| | | | |
|--|--|-------|--------|
| Desert pupfish | <u>Cyprinodon macularius</u> | Known | E |
| Razorback sucker | <u>Xyrauchen texanus</u> | Known | E |
| Desert slender salamander | <u>Batrachoseps aridus</u> | Known | E |
| Desert tortoise | <u>Gopherus (=Xerobates) agassizii</u> | Known | T |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Coachella Valley fringe-toed lizard | <u>Uma inornata</u> | Known | T, CH |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Yuma clapper rail | <u>Rallus longirostris yumanensis</u> | Known | E |
| Least Bell's vireo | <u>Vireo bellii pusillus</u> | Known | E, PCH |
| California least tern | <u>Sterna antillarum (=Albifrons) browni</u> | Known | E |
| Coastal California gnatcatcher | <u>Polioptila californica californica</u> | Known | P |
| Stephens' kangaroo rat | <u>Dipodomys stephensi</u> | Known | E |
| Vernal pool fairy shrimp | <u>Branchinecta lynchi</u> | Known | P |
| California linderiella | <u>Linderiella occidentalis</u> | Known | P |
| Riverside fairy shrimp | <u>Streptocephalus woottoni</u> | Known | P |
| Slender-horned spineflower | <u>Dodecagahama (=Centrostegia) leptoceras</u> | Known | E |
| Santa Ana River wooly-star | <u>Eriastrum densifolium subsp. sanctorum</u> | Known | E |
| San Diego button-celery | <u>Eryngium aristulatum var. parishii</u> | Known | P |

| | | | |
|----------------------------|---|----------|---|
| California orcutt grass | <u>Orcuttia californica</u> | Known | P |
| Coachella Valley milkvetch | <u>Astragalus lentiginos</u> var. <u>coachellae</u> | Known | P |
| Parish's daisy | <u>Erigeron parishii</u> | Known | P |
| Triple-ribbed milkvetch | <u>Astragalus tricarínatus</u> | Known | P |
| Bonytail chub | <u>Gial elegans</u> | Possible | E |
| Colorado squawfish | <u>Ptychocheilus lucius</u> | Possible | E |

Sacramento County

| | | | |
|-----------------------------------|---|-------|--------|
| Winter-run chinook salmon | <u>Oncorhynchus tshawytscha</u> | Known | T |
| Delta smelt | <u>Hypomesus transpacificus</u> | Known | P, PCH |
| Giant garter snake | <u>Thamnophis gigas</u> | Known | P |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Aleutian Canada goose | <u>Branta canadensis leucopareia</u> | Known | T |
| Valley elderberry longhorn beetle | <u>Desmocerus californicus dimorphus</u> | Known | T, CH |
| Vernal pool fairy shrimp | <u>Branchinecta lynchi</u> | Known | P |
| Vernal pool tadpole shrimp | <u>Lepidurus packardii</u> | Known | P |
| California linderiella | <u>Linderiella occidentalis</u> | Known | P |
| Antioch Dunes evening primrose | <u>Oenothera deltoides</u> subsp. <u>howellii</u> | Known | E |

San Bernardino County

| | | | |
|----------------------------------|--|----------|--------|
| Unarmored threespine stickleback | <u>Gasterosteus aculeatus williamsoni</u> | Known | E |
| Mohave tui chub | <u>Gila bicolor mohavensis</u> | Known | E |
| Razorback sucker | <u>Xyrauchen texanus</u> | Known | E |
| Colorado squawfish | <u>Ptychocheilus lucius</u> | Possible | E |
| Desert tortoise | <u>Gopherus (=Xerobates) agassizii</u> | Known | T |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Yuma clapper rail | <u>Rallus longirostris yumanensis</u> | Known | E |
| Least Bell's vireo | <u>Vireo bellii pusillus</u> | Known | E, PCH |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Stephens' kangaroo rat | <u>Dipodomys stephensi</u> | Possible | E |
| Coastal California gnatcatcher | <u>Polioptila californica californica</u> | Known | P |
| Western snowy plover | <u>Polioptila californica californica</u> | Known | P |
| Slender-horned spineflower | <u>Dodecagema (=Centrostegia) leptoceras</u> | Known | E |
| Santa Ana River wooly-star | <u>Eriastrum densifolium</u> subsp. <u>sanctorum</u> | Known | E |
| Pedate checker-mallow | <u>Sidalcea pedata</u> | Known | E |
| Slender-petaled mustard | <u>Thelypodium stenopetalum</u> | Known | E |
| Swamp sandwort | <u>Arenaria paludicola</u> | Known | P |
| Marsh sandwort | <u>Arenaria paludicola</u> | Known | P |
| Cushenbury milkvetch | <u>Astragalus albens</u> | Known | P |

| | | | |
|-----------------------------------|--|-------|---|
| Valley elderberry longhorn beetle | <u>Desmocerus californicus dimorphus</u> | Known | T |
| Vernal pool fairy shrimp | <u>Branchinecta lynchi</u> | Known | P |
| Vernal pool tadpole shrimp | <u>Lepidurus packardii</u> | Known | P |
| California linderiella | <u>Linderiella occidentalis</u> | Known | P |
| Large-flowered fiddleneck | <u>Amsinckia grandiflora</u> | Known | E |
| Palmate-bracted bird's-beak | <u>Cordylanthus palmatus</u> | Known | E |

San Luis Obispo County

| | | | |
|--|--|----------|-------|
| Blunt-nosed leopard lizard | <u>Gambelia (=Crotaphytus) silus</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| California condor | <u>Gymnogyps californianus</u> | Possible | E, CH |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| California least tern | <u>Sterna antillarum (=Albifrons) browni</u> | Known | E |
| Least Bell's vireo | <u>Vireo bellii pusillus</u> | Known | E |
| Western snowy plover (coastal population) | <u>Charadrius alexandrinus nivosus</u> | Known | P |
| Marbled murrelet | <u>Brachyramphus marmoratus</u> | Known | T |
| Morro Bay kangaroo rat | <u>Dipodomys heermanni morroensis</u> | Known | E |
| Giant kangaroo rat | <u>Dipodomys ingens</u> | Known | E |
| San Joaquin kit fox | <u>Vulpes macrotis mutica</u> | Known | E |
| Southern sea otter | <u>Enhydra lutris nereis</u> | Known | T |
| Longhorn fairy shrimp | <u>Branchinecta longiantenna</u> | Known | P |
| Morro shoulderband snail | <u>Helminthoglypta walkeriana</u> | Known | P |
| California linderiella | <u>Linderiella occidentalis</u> | Known | P |
| California jewelflower | <u>Caulanthus californicus</u> | Known | E |
| Salt marsh bird's-beak | <u>Cordylanthus maritimus subsp. maritimus</u> | Known | E |
| San Joaquin wooly-threads | <u>Lembertia congdonii</u> | Known | E |
| Hoover's wooly-star | <u>Eriastrum hooveri</u> | Known | T |
| Morro manzanita | <u>Arctostaphylos morroensis</u> | Known | P |
| Swamp sandwort | <u>Arenaria paludicola</u> | Known | P |
| Chorro Creek bog thistle | <u>Cirsium fontinale var. obispoense</u> | Known | P |
| Pismo clarkia | <u>Clarkia speciosa var. immaculata</u> | Known | P |
| Indian Knob mountainbalm | <u>Eriodictyon altissimum</u> | Known | P |
| Gambel's watercress | <u>Rorippa gambellii</u> | Known | P |
| California sea-blite | <u>Suaeda californica</u> | Known | P |

San Mateo County

| | | | |
|----------------------------|--|-------|---|
| San Francisco garter snake | <u>Thamnophis sirtalis tetrataenia</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| California least tern | <u>Sterna antillarum (=Albifrons) browni</u> | Known | E |
| California clapper rail | <u>Rallus longirostris obsoletus</u> | Known | E |

| | | | |
|---------------------------|--|----------|---|
| Lane Mountain milkvetch | <u>Astragalus jaegerianus</u> | Known | P |
| Triple-ribbed milkvetch | <u>Astragalus tricarinatus</u> | Known | P |
| Parish's daisy | <u>Erigeron parishii</u> | Known | P |
| Cushenbury buckwheat | <u>Eriogonum ovalifolium</u> var. <u>vineum</u> | Known | P |
| San Bernardino bladderpod | <u>Lesquerella kingii</u> subsp. <u>bernardina</u> | Known | P |
| Desert pupfish | <u>Cyprinodon macularius</u> | Possible | E |
| Cushenbury oxytheca | <u>Oxytheca parishii</u> var. <u>goodmaniana</u> | Known | P |
| Gambel's watercress | <u>Rorippa gambellii</u> | Known | P |

San Diego County

| | | | |
|---|---|----------|--------|
| Desert pupfish | <u>Cyprinodon macularius</u> | Known | E |
| Unarmored threespine stickleback | <u>Gasterosteus aculeatus williamsoni</u> | Known | E |
| Mohave tui chub | <u>Gila bicolor mohavensis</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| Light-footed clapper rail | <u>Rallus longirostris levipes</u> | Known | E |
| California least tern | <u>Sterna antillarum</u> (=albifrons) <u>browni</u> | Known | E |
| Least Bell's vireo | <u>Vireo bellii pusillus</u> | Known | E, PCH |
| Western snowy plover (coastal population) | <u>Charadrius alexandrinus nivosus</u> | Known | P |
| Coastal California gnatcatcher | <u>Polioptila californica californica</u> | Known | P |
| Marbled murrelet | <u>Brachyramphus marmoratus</u> | Known | T |
| Stephen's kangaroo rat | <u>Dipodomys stephensi</u> | Known | E |
| Riverside fairy shrimp | <u>Streptocephalus woottoni</u> | Known | P |
| Salt marsh bird's-beak | <u>Cordylanthus maritimus</u> subsp. <u>maritimus</u> | Known | E |
| San Diego mesa mint | <u>Pogogyne abramsii</u> | Known | E |
| San Diego button-celery | <u>Eryngium aristulatum</u> var. <u>parishii</u> | Known | P |
| California orcutt grass | <u>Orcuttia californica</u> | Known | P |
| Otay mesa mint | <u>Pogogyne nudiuscula</u> | Known | P |
| Gambel's watercress | <u>Rorippa gambellii</u> | Known | P |
| Slender-horned spineflower | <u>Dodecabama</u> (=Centrostegia) <u>leptoceras</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Possible | T |

San Joaquin County

| | | | |
|---------------------------|--------------------------------------|-------|--------|
| Winter-run chinook salmon | <u>Oncorhynchus tshawytscha</u> | Known | T |
| Delta smelt | <u>Hypomesus transpacificus</u> | Known | P, PCH |
| Giant garter snake | <u>Thamnophis gigas</u> | Known | P |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Aleutian Canada goose | <u>Branta canadensis leucopareia</u> | Known | T |
| San Joaquin kit fox | <u>Vulpes macrotis mutica</u> | Known | E |

| | | | |
|--|--|-------|--------|
| Western snowy plover (coastal population) | <u>Charadrius alexandrinus nivosus</u> | Known | P |
| Marbled murrelet | <u>Brachyramphus marmoratus</u> | Known | T |
| Salt marsh harvest mouse | <u>Reithrodontomys raviventris</u> | Known | E |
| Mission blue butterfly | <u>Icaricia icarioides missionensis</u> | Known | E |
| San Bruno elfin butterfly | <u>Incisalia mossii bayensis</u> | Known | E |
| Myrtle's silverspot butterfly | <u>Speyeria zerene myrtleae</u> | Known | E |
| Bay checkerspot butterfly | <u>Euphydryas editha bayensis</u> | Known | T, PCH |
| California linderiella | <u>Linderiella occidentalis</u> | Known | P |
| San Mateo thornmint | <u>Acanthomintha obovata subsp. duttonii</u> | Known | E |
| Santa Cruz cypress | <u>Cupressus abramsiana</u> | Known | E |

Santa Barbara County

| | | | |
|--|--|----------|--------|
| Unarmored threespine stickleback | <u>Gasterosteus aculeatus williamsoni</u> | Known | E |
| Blunt-nosed leopard lizard | <u>Gambelia (=Crotaphytus) silus</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| California condor | <u>Gymnogyps californianus</u> | Possible | E, CH |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| Light-footed clapper rail | <u>Rallus longirostris levipes</u> | Known | E |
| California least tern | <u>Sterna antillarum (=Albifrons) browni</u> | Known | E |
| Least Bell's vireo | <u>Vireo bellii pusillus</u> | Known | E, PCH |
| Western snowy plover (coastal population) | <u>Charadrius alexandrinus nivosus</u> | Known | P |
| Marbled murrelet | <u>Brachyramphus marmoratus</u> | Known | T |
| San Joaquin kit fox | <u>Vulpes macrotis mutica</u> | Known | E |
| California linderiella | <u>Linderiella occidentalis</u> | Known | P |
| California jewelflower | <u>Caulanthus californicus</u> | Known | E |
| salt marsh bird's-beak | <u>Cordylanthus maritimus subsp. maritimus</u> | Known | E |
| Santa Barbara Island live-forever | <u>Dudleya traskiae</u> | Known | E |
| Beach layia | <u>Layia carnosa</u> | Known | E |
| Hoover's wooly-star | <u>Eriastrum hooveri</u> | Known | T |
| San Joaquin wooly-threads | <u>Lembertia congdonii</u> | Known | E |

Santa Clara County

| | | | |
|---------------------------|--|-------|--------|
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| California clapper rail | <u>Rallus longirostris obsoletus</u> | Known | E |
| California least tern | <u>Sterna antillarum (=Albifrons) browni</u> | Known | E |
| Salt marsh harvest mouse | <u>Reithrodontomys raviventris</u> | Known | E |
| San Joaquin kit fox | <u>Vulpes macrotis mutica</u> | Known | E |
| Bay checkerspot butterfly | <u>Euphydryas editha bayensis</u> | Known | T, PCH |

Santa Cruz County

| | | | |
|---|--|-------|---|
| Santa Cruz long-toed salamander | <u>Ambystoma macrodactylum croceum</u> | Known | E |
| San Francisco garter snake | <u>Thamnophis sirtalis tetrataenia</u> | Known | E |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| California least tern | <u>Sterna antillarum (=Albifrons) browni</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | T |
| Marbled murrelet | <u>Brachyramphus marmoratus</u> | | |
| Western snowy plover (coastal population) | <u>Charadrius alexandrinus nivosus</u> | Known | P |
| Southern sea otter | <u>Enhydra lutris nereis</u> | Known | T |
| Santa Cruz cypress | <u>Cupressus abramsiana</u> | Known | E |
| Swamp sandwort | <u>Arenaria paludicola</u> | Known | P |
| Ben Lomond spineflower | <u>Chorizanthe pungens var. hartwegiana</u> | Known | P |
| Monterey spineflower | <u>Chorizanthe pungens var. pungens</u> | Known | P |
| Scotts Valley spineflower | <u>Chorizanthe robusta var. hartwegii</u> | Known | P |
| Ben Lomond wallflower | <u>Erysimum teretifolium</u> | Known | P |

Tulare County

| | | | |
|----------------------------|--|----------|-------|
| Little Kern golden trout | <u>Oncorhynchus mykiss whitei</u> | Known | T, CH |
| Blunt-nosed leopard lizard | <u>Gambelia (=Crotaphytus) silus</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| California condor | <u>Gymnogyps californianus</u> | Possible | E, CH |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Tipton kangaroo rat | <u>Dipodomys nitratoides nitratoides</u> | Known | E |
| San Joaquin kit fox | <u>Vulpes macrotis mutica</u> | Known | E |
| California jewelflower | <u>Caulanthus californicus</u> | Known | E |
| San Joaquin wooly-threads | <u>Lembertia congdonii</u> | Known | E |

Ventura County

| | | | |
|----------------------------------|--|----------|--------|
| Unarmored threespine stickleback | <u>Gasterosteus aculeatus williamsoni</u> | Known | E |
| Island night lizard | <u>Xantusia (=Klauberina) riversianayes</u> | Known | T |
| Blunt-nosed leopard lizard | <u>Gambelia (=Crotaphytus) silus</u> | Known | E |
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| California condor | <u>Gymnogyps californianus</u> | Possible | E, CH |
| California brown pelican | <u>Pelecanus occidentalis californicus</u> | Known | E |
| Light-footed clapper rail | <u>Rallus longirostris levipes</u> | Known | E |
| California least tern | <u>Sterna antillarum (=Albifrons) browni</u> | Known | E |
| Least Bell's vireo | <u>Vireo bellii pusillus</u> | Known | E, PCH |

| | | | |
|--|--|-------|---|
| Western snowy plover (coastal population) | <u>Charadrius alexandrinus nivosus</u> | Known | P |
| Marbled murrelet | <u>Brachyramphus marmoratus</u> | Known | T |
| Conservancy fairy shrimp | <u>Branchinecta conservatio</u> | Known | P |
| California linderiella | <u>Linderiella occidentalis</u> | Known | P |
| Salt marsh bird's-beak | <u>Cordylanthus maritimus subsp. maritimus</u> | Known | E |
| Gambel's watercress | <u>Rorippa gambellii</u> | Known | P |

State

Florida

Brevard County

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Certainty of Occurrence</u> | <u>Status</u> |
|---------------------------|---|--------------------------------|---------------|
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Florida scrub Jay | <u>Aphelocoma coerulescens coerulescens</u> | Known | T |
| West Indian manatee | <u>Trichechus manatus</u> | Known | E, CH |
| Southeastern beach mouse | <u>Peromyscus polionotus niveiventris</u> | Known | T |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Atlantic salt marsh snake | <u>Nerodia fasciata taeniata</u> | Known | T |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Hawksbill sea turtle | <u>Eretmochelys imbricata</u> | Known | E |
| Kemp's ridley sea turtle | <u>Lepidochelys kemp</u> | Known | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Red-cockaded woodpecker | <u>Picoides borealis</u> | Known | E |

Broward County

| | | | |
|------------------------|--|-------|-------|
| American crocodile | <u>Crocodylus acutus</u> | Known | E, CH |
| Everglade snail kite | <u>Rostrhamus socialbilis plumbeus</u> | Known | E, CH |
| West Indian manatee | <u>Trichechus manatus</u> | Known | E, CH |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Florida panther | <u>Felis concolor coryi</u> | Known | E |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Hawksbill sea turtle | <u>Eretmochelys imbricata</u> | Known | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |

Dade County

| | | | |
|------------------------------|--|-------|-------|
| Schaus swallowtail butterfly | <u>Heraclides (=Papilio) aristodemus ponceanus</u> | Known | E |
| American crocodile | <u>Crocodylus acutus</u> | Known | E, CH |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| | <u>Chamaesyce garberi (=Euphorbia g.)</u> | Known | T |
| Everglade snail kite | <u>Rostrhamus socialbilis plumbeus</u> | Known | E, CH |
| Crenulate lead-plant | <u>Amorpha crenulata</u> | Known | E |

| | | | |
|--------------------------------|--|-------|-------|
| West Indian manatee | <u>Trichechus manatus</u> | Known | E, CH |
| Small's milkpea | <u>Galactia smallii</u> | Known | E |
| Florida panther | <u>Felis concolor coryi</u> | Known | E |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Tiny polygala | <u>Palygala smallii</u> | Known | E |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Cape sable sparrow | <u>Ammodramus (=Ammospiza) maritimus mirabilis</u> | Known | E, CH |
| Florida grasshopper sparrow | <u>Ammodramus savannarum floridanus</u> | Known | E |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Hawksbill sea turtle | <u>Eretmochelys imbricata</u> | Known | E |
| Kemp's ridley sea turtle | <u>Lepidochelys kempii</u> | Known | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Red-cockaded woodpecker | <u>Picoides (=Dendrocopos) borealis</u> | Known | E |

Hillsborough County

| | | | |
|--------------------------|---|----------|-------|
| Florida golden aster | <u>Chrysopsis floridana (=Heterotheca f.)</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Florida scrub jay | <u>Aphelocoma coerulescens coerulescens</u> | Known | T |
| West Indian manatee | <u>Trichechus manatus</u> | Known | E, CH |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Gulf sturgeon | <u>Acipenser oxyrhynchus desotoi</u> | Known | T |
| Green sea turtle | <u>Chelonia mydas</u> | Possible | T |
| Kemp's ridley sea turtle | <u>Lepidochelys kempii</u> | Possible | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Red-cockaded woodpecker | <u>Picoides (=Dendrocopos) borealis</u> | Known | E |

Indian River County

| | | | |
|----------------------------|---|----------|-------|
| Audubon's crested caracara | <u>Polyborus plancus audubonii</u> | Possible | T |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Florida scrub jay | <u>Aphelocoma coerulescens coerulescens</u> | Known | T |
| Everglade snail kite | <u>Rostrhamus socialbilis plumbeus</u> | Known | E, CH |
| West Indian manatee | <u>Trichechus manatus</u> | Known | E, CH |
| Lakela's mint | <u>Dicerandra immaculata</u> | Known | E, CH |
| Southeastern beach mouse | <u>Peromyscus polionotus niveiventris</u> | Known | T |
| Atlantic salt marsh snake | <u>Nerodia fasciata taeniata</u> | Known | T |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Kemp's ridley sea turtle | <u>Lepidochelys kempii</u> | Possible | E |

| | | | |
|------------------------|-----------------------------|-------|---|
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |

Lee County

| | | | |
|--------------------------|---|----------|-------|
| American crocodile | <u>Crocodylus acutus</u> | Known | E, CH |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Florida scrub jay | <u>Aphelocoma coerulescens coerulescens</u> | Known | T |
| Everglade snail kite | <u>Rostrhamus socialbilis plumbeus</u> | Possible | E, CH |
| West Indian manatee | <u>Trichechus manatus</u> | Known | E, CH |
| Florida panther | <u>Felis concolor coryi</u> | Known | E |
| Beautiful pawpaw | <u>Deeringothamnus pulchellus</u> | Known | E |
| piping plover | <u>Charadrius melodus</u> | Known | E |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Kemp's ridley sea turtle | <u>Lepidochelys kempii</u> | Possible | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Red-cockaded woodpecker | <u>Picoides (=Dendrocopos) borealis</u> | Known | E |

Monroe County

| | | | |
|------------------------------|--|-------|-------|
| Schaus swallowtail butterfly | <u>Heraclides (=Papilio) aristodemus ponceanus</u> | Known | E |
| Key tree-cactus | <u>Cereus robinii</u> | Known | E |
| Audubon's crested caracara | <u>Polyborus plancus audubonii</u> | Known | T |
| American crocodile | <u>Crocodylus acutus</u> | Known | E, CH |
| Key deer | <u>Odocoileus virginianus clavium</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| | <u>Chamaesyce garberi (=Euphorbia g.)</u> | Known | T |
| Everglade snail kite | <u>Rostrhamus socialbilis plumbeus</u> | Known | E, CH |
| West Indian manatee | <u>Trichechus manatus</u> | Known | E, CH |
| Key largo cotton mouse | <u>Peromyscus gossypinus allapaticola</u> | Known | E |
| Florida panther | <u>Felis concolor coryi</u> | Known | E |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Lower Keys rabbit | <u>Sylvilagus palustris hefneri</u> | Known | E |
| Silver rice rat | <u>Oryzomys palustris natator</u> | Known | E |
| Stock Island tree snail | <u>Orthalicus reses</u> | Known | T |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Cape Sable seaside sparrow | <u>Ammodramus (=Ammospiza) maritimus mirabilis</u> | Known | E, CH |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Roseate tern | <u>Sterna dougallii dougallii</u> | Known | E |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Hawksbill sea turtle | <u>Eretmochelys imbricata</u> | Known | E |

| | | | |
|--------------------------|---|----------|---|
| Kemp's ridley sea turtle | <u>Lepidochelys kempii</u> | Known | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Possible | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Red-cockaded woodpecker | <u>Picoides (=Dendrocopos) borealis</u> | Known | E |
| Key largo woodrat | <u>Neotoma floridana smalli</u> | Known | E |

Orange County

| | | | |
|----------------------------|---|----------|-------|
| Florida bonamia | <u>Bonamia grandiflora</u> | Known | T |
| Audubon's crested caracara | <u>Polyborus plancus audubonii</u> | Known | T |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Florida scrub jay | <u>Aphelocoma coerulescens coerulescens</u> | Known | T |
| Everglade snail kite | <u>Rostrhamus socialbilis plumbeus</u> | Possible | E, CH |
| Scrub lupine | <u>Lupinus aridorum</u> | Known | E |
| Beautiful pawpaw | <u>Deeringothamnus pulchellus</u> | Known | E |
| Sand skink | <u>Neoseps reynoldsi</u> | Known | T |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Papery whitlow-wort | <u>Paronychia chartacea</u> | Known | T |
| Red-cockaded woodpecker | <u>Picoides (=Dendrocopos) borealis</u> | Known | E |
| Britton's beargrass | <u>Nolina brittoniana</u> | Known | PE |
| Sandlace | <u>Polygonella myriophylla</u> | Known | PE |
| Scrub wild buckwheat | <u>Eriogonum longifolium</u> | Known | PE |

Palm Beach County

| | | | |
|----------------------------|---|----------|-------|
| Audubon's crested caracara | <u>Polyborus plancus audubonii</u> | Possible | T |
| Florida scrub jay | <u>Aphelocoma coerulescens coerulescens</u> | Known | T |
| Everglade snail kite | <u>Rostrhamus socialbilis plumbeus</u> | Possible | E, CH |
| West Indian manatee | <u>Trichechus manatus</u> | Known | E, CH |
| Four-petal pawpaw | <u>Asimina tetramera</u> | Known | E |
| Piping plover | <u>Charadrius melodus</u> | Possible | E |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Hawksbill sea turtle | <u>Eretmochelys imbricata</u> | Known | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Red-cockaded woodpecker | <u>Picoides (=Dendrocopos) borealis</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Okeechobee gourd | <u>Cucurbita okeechobeensis</u> | Known | PE |

Pinellas County

| | | | |
|---------------------|---------------------------------|-------|-------|
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| West Indian manatee | <u>Trichechus manatus</u> | Known | E, CH |
| Piping plover | <u>Charadrius melodus</u> | Known | E |

| | | | |
|--------------------------|--------------------------------------|----------|---|
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Gulf sturgeon | <u>Acipenser oxyrhynchus desotoi</u> | Known | T |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Kemp's ridley sea turtle | <u>Lepidochelys kempii</u> | Possible | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |

Seminole County

| | | | |
|----------------------|---|-------|-------|
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Florida scrub jay | <u>Aphelocoma coerulescens coerulescens</u> | Known | T |
| West Indian manatee | <u>Trichechus manatus</u> | Known | E, CH |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |

St. Lucie County

| | | | |
|--------------------------|---|----------|-------|
| Audubon's caracara | <u>Polyborus plancus audubonii</u> | Known | T |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Florida scrub jay | <u>Aphelocoma coerulescens coerulescens</u> | Known | T |
| Everglade snail kite | <u>Rostrhamus socialbilis plumbeus</u> | Known | E, CH |
| West Indian manatee | <u>Trichechus manatus</u> | Known | E, CH |
| Lakela's mint | <u>Dicerandra immaculata</u> | Known | E |
| Southeastern beach mouse | <u>Peromyscus polionotus niveiventris</u> | Known | T |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Fragrant prickley-apple | <u>Cereus eriophorus</u> | Known | E |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Known | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Hawksbill sea turtle | <u>Eretmochelys imbricata</u> | Possible | E |
| Kemp's ridley sea turtle | <u>Lepidochelys kempii</u> | Possible | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |

State

Georgia

Chatham County

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Certainty of Occurrence</u> | <u>Status</u> |
|--------------------------|---|--------------------------------|---------------|
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |
| West Indian manatee | <u>Trichechus manatus</u> | Known | E |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Possible | T |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Hawksbill sea turtle | <u>Eretmochelys imbricata</u> | Known | E |
| Kemp's ridley sea turtle | <u>Lepidochelys kemp</u> | Known | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Shortnose sturgeon | <u>Acipenser brevirostrum</u> | Known | E |
| Bachman's warbler | <u>Vermivora bachmanii</u> | Possible | E |
| Kirtland's warbler | <u>Dendroica kirtlandii</u> | Possible | E |
| Red-cockaded woodpecker | <u>Picoides (=Dendrocopos) borealis</u> | Known | E |
| Humpback whale | <u>Megaptera novaeangliae</u> | Known | E |
| Right whale | <u>Balaena glacialis</u> | Known | E |

State

Louisiana

Jefferson County

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Certainty of Occurrence</u> | <u>Status</u> |
|--------------------------|----------------------------------|--------------------------------|---------------|
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |
| Brown pelican | <u>Pelecanus occidentalis</u> | Known | E |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Pallid sturgeon | <u>Scaphirhynchus albus</u> | Possible | E |
| Kemp's ridley sea turtle | <u>Lepidochelys kemp</u> | Possible | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Possible | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Possible | T |

Lafourche County

| | | | |
|--------------------------|----------------------------------|----------|---|
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |
| Brown pelican | <u>Pelecanus occidentalis</u> | Known | E |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Kemp's ridley sea turtle | <u>Lepidochelys kemp</u> | Possible | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Possible | E |
| Green sea turtle | <u>Chelonia mydas</u> | Possible | T |

Plaquemines County

| | | | |
|--------------------------|----------------------------------|----------|---|
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |
| Brown pelican | <u>Pelecanus occidentalis</u> | Known | E |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Pallid sturgeon | <u>Scaphirhynchus albus</u> | Possible | E |
| Kemp's ridley sea turtle | <u>Lepidochelys kemp</u> | Known | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |

St. Bernard County

| | | | |
|-------------------------|----------------------------------|----------|---|
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |
| Brown pelican | <u>Pelecanus occidentalis</u> | Known | E |
| Piping plover | <u>Charadrius melodus</u> | Known | E |
| Pallid sturgeon | <u>Scaphirhynchus albus</u> | Possible | E |

| | | | |
|--------------------------|--------------------------------------|----------|---|
| Kemp's ridley sea turtle | <u>Lepidochelys kemp</u> | Possible | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Green sea turtle | <u>Chelonia mydas</u> | Possible | T |
| Gulf sturgeon | <u>Acipenser oxyrhynchus desotoi</u> | Known | T |

St. Charles County

| | | | |
|-------------------------|--------------------------------------|----------|---|
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |
| Pallid sturgeon | <u>Scaphirhynchus albus</u> | Possible | E |
| Gulf sturgeon | <u>Acipenser oxyrhynchus desotoi</u> | Known | T |

State

Mississippi

Harrison County

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Certainty of Occurrence</u> | <u>Status</u> |
|--------------------------|---|--------------------------------|---------------|
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Brown pelican | <u>Pelecanus occidentalis</u> | Known | E |
| Kemp's ridley sea turtle | <u>Lepidochelys kempi</u> | Possible | E |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Green sea turtle | <u>Chelonia mydas</u> | Possible | T |
| Gulf sturgeon | <u>Acipenser oxyrhynchus desotoi</u> | Known | T |
| Eastern indigo snake | <u>Drymarchon corais couperi</u> | Possible | T |
| Red-cockaded woodpecker | <u>Picoides (=Dendrocopos) borealis</u> | Known | E |
| Gopher tortoise | <u>Gopherus polyphemus</u> | Known | T |
| Louisiana black bear | <u>Ursus a. luteolus</u> | Known | T |

State

South Carolina

Beaufort County

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Certainty of Occurrence</u> | <u>Status</u> |
|-------------------------|----------------------------------|--------------------------------|---------------|
| West Indian manatee | <u>Trichechus manatus</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Red-cockaded woodpecker | <u>Picoides borealis</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |
| Piping plover | <u>Charadrius melodus</u> | Known | T |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Canby's dropwort | <u>Oxypolis canbyi</u> | Known | E |
| Pondberry | <u>Lindera melissifolia</u> | Known | E |
| American Chaffseed | <u>Schwalbea americana</u> | Possible | P |
| Shortnose sturgeon | <u>Acipenser brevirostrum</u> | Known | E |

Charleston County

| | | | |
|-------------------------|----------------------------------|----------|---|
| West Indian manatee | <u>Trichechus manatus</u> | Possible | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Bachman's warbler | <u>Vermivora bachmanii</u> | Possible | E |
| Wood stork | <u>Mycteria americana</u> | Known | E |
| Red-cockaded woodpecker | <u>Picoides borealis</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Possible | T |
| Piping plover | <u>Charadrius melodus</u> | Known | T |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Shortnose sturgeon | <u>Acipenser brevirostrum</u> | Known | E |
| Canby's dropwort | <u>Oxypolis canbyi</u> | Possible | E |
| Pondberry | <u>Lindera melissifolia</u> | Possible | E |
| American chaffseed | <u>Schwalbea americana</u> | Known | P |
| Sea-beach pigweed | <u>Amaranthus pumilus</u> | Possible | P |
| Red wolf | <u>Canis rufus</u> | Known | E |

State

Texas

Cameron County

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Certainty of Occurrence</u> | <u>Status</u> |
|---------------------------|--|--------------------------------|---------------|
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Brown pelican | <u>Pelecanus occidentalis</u> | Known | E |
| Hawksbill sea turtle | <u>Eretmochelys imbricata</u> | Possible | E |
| Jaguarundi | <u>Felis yagouaroundi</u> | Known | E |
| Kemp's ridley sea turtle | <u>Lepidochelys kempii</u> | Known | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Northern aplomado falcon | <u>Falco femoralis septentrionalis</u> | Known | E |
| Ocelot | <u>Felis pardalis</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Piping plover | <u>Charadrius melodus</u> | Known | T |

Hidalgo County

| | | | |
|---------------------------|--|-------|---|
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Jaguarundi | <u>Felis yagouaroundi</u> | Known | E |
| Northern aplomado falcon | <u>Falco femoralis septentrionalis</u> | Known | E |
| Ocelot | <u>Felis pardalis</u> | Known | E |
| Walker's manioc | <u>Manihot walkerae</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |

Starr County

| | | | |
|----------------------|-------------------------------------|----------|---|
| Ashy dogweed | <u>Thymophylla tephroleuca</u> | Known | E |
| Interior least tern | <u>Sterna antillarum athalassos</u> | Known | E |
| Jaguarundi | <u>Felis yagouaroundi</u> | Known | E |
| Johnston's frankenia | <u>Frankenia johnstonii</u> | Known | E |
| Ocelot | <u>Felis pardalis</u> | Known | E |
| Walker's manioc | <u>Manihot walkerae</u> | Possible | E |
| Star cactus | <u>Echinocactus asterias</u> | Known | P |

Willacy County

| | | | |
|---------------------------|--------------------------------|-------|---|
| American peregrine falcon | <u>Falco peregrinus anatum</u> | Known | E |
| Brown pelican | <u>Pelecanus occidentalis</u> | Known | E |
| Hawksbill sea turtle | <u>Eretmochelys imbricata</u> | Known | E |

| | | | |
|--------------------------|--|----------|---|
| Jaguarundi | <u>Felis yagouaroundi</u> | Known | E |
| Kemp's ridley sea turtle | <u>Lepidochelys kemp</u> | Known | E |
| Leatherback sea turtle | <u>Dermochelys coriacea</u> | Known | E |
| Ocelot | <u>Felis pardalis</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |
| Green sea turtle | <u>Chelonia mydas</u> | Known | T |
| Loggerhead sea turtle | <u>Caretta caretta</u> | Known | T |
| Piping plover | <u>Charadrius melodus</u> | Known | T |
| Northern aplomado falcon | <u>Falco femoralis septentrionalis</u> | Possible | E |
| Eskimo curlew | <u>Numenius borealis</u> | Possible | E |

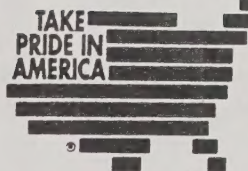
Harris County

| | | | |
|-------------------------|----------------------------------|-------|---|
| Prairie dawn | <u>Hymenoxys texana</u> | Known | E |
| Arctic peregrine falcon | <u>Falco peregrinus tundrius</u> | Known | T |
| Bald eagle | <u>Haliaeetus leucocephalus</u> | Known | E |
| Whooping crane | <u>Grus americana</u> | Known | E |
| Houston toad | <u>Bufo houstonensis</u> | Known | E |

* E = Endangered T = Threatened P = Proposed CH = Critical Habitat



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Post Office Box 1306
Albuquerque, N.M. 87103

In Reply Refer To:
R2/ES-SE
CL 9-011

SEP 28 1993

Jack Edmundson, Branch Chief
Environmental Analysis and Documentation
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
6505 Belcrest Road
Hyattsville, Maryland 20782

Dear Mr. Edmundson:

This responds to your request of August 31, 1993, for the U.S. Fish and Wildlife Service's (Service) concurrence on the Animal and Plant Health Inspection Service's (APHIS) final biological assessment on the Medfly Cooperative Eradication Program (Program). This assessment is dated August 1993 and evaluates the Program's effects upon listed and proposed endangered and threatened species as of November 16, 1992, in 9 states and 55 counties (includes several parishes) in Regions 1, 2, and 4 of the Service. In addition to your request, we are furnishing APHIS some recent endangered and threatened species information for Alabama and Arizona.

We concur with APHIS's "no effect" finding.

The bald eagle has been confirmed to occur in Baldwin and Mobile Counties, Alabama. This species may be added to the category 4 potential impact group, for aerial and mist blower use of malathion bait spray. The Mexican spotted owl has been listed as threatened and Tumamoc globe-berry has been delisted.

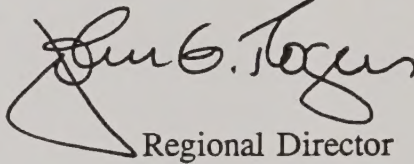
The Service sincerely appreciates APHIS's willingness to fully integrate the protection of the integrity of endangered and threatened species life systems into this fruit fly control program that bears upon a major agricultural industry of the United States. We believe this is a fine example of the compatibility that can exist between environmental and agricultural needs. We respect and support your willingness and persistence to use the informal section 7 consultation process to meet the "no effect" goal of our agencies.

Jack Edmundson, Branch Chief

2

If you have any questions about the Service's finding, contact Gary Halvorson, Region 2 Section 7 Coordinator, at (505) 766-3974.

Sincerely,


Regional Director

cc:

Director, Fish and Wildlife Service, Washington, D.C.(AES/TE)(Attention: Pat Carter)

Regional Director, Region 1 (Attention: John Nuss)

Regional Director, Region 4 (Attention: Victoria Davis, Richard Hannan, and Charles Facemire)

Deputy Assistant Regional Director - Habitat Conservation and Environmental Contaminants, Region 2

Supervisors, Ecological Services Field Offices, Arizona, Clear Lake, and Corpus Christi, Texas; Carlsbad, Sacramento, and Ventura, California; Jacksonville and Vero Beach, Florida; Brunswick, Georgia; Charleston, South Carolina; Daphne, Alabama; and Lafayette, Louisiana

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